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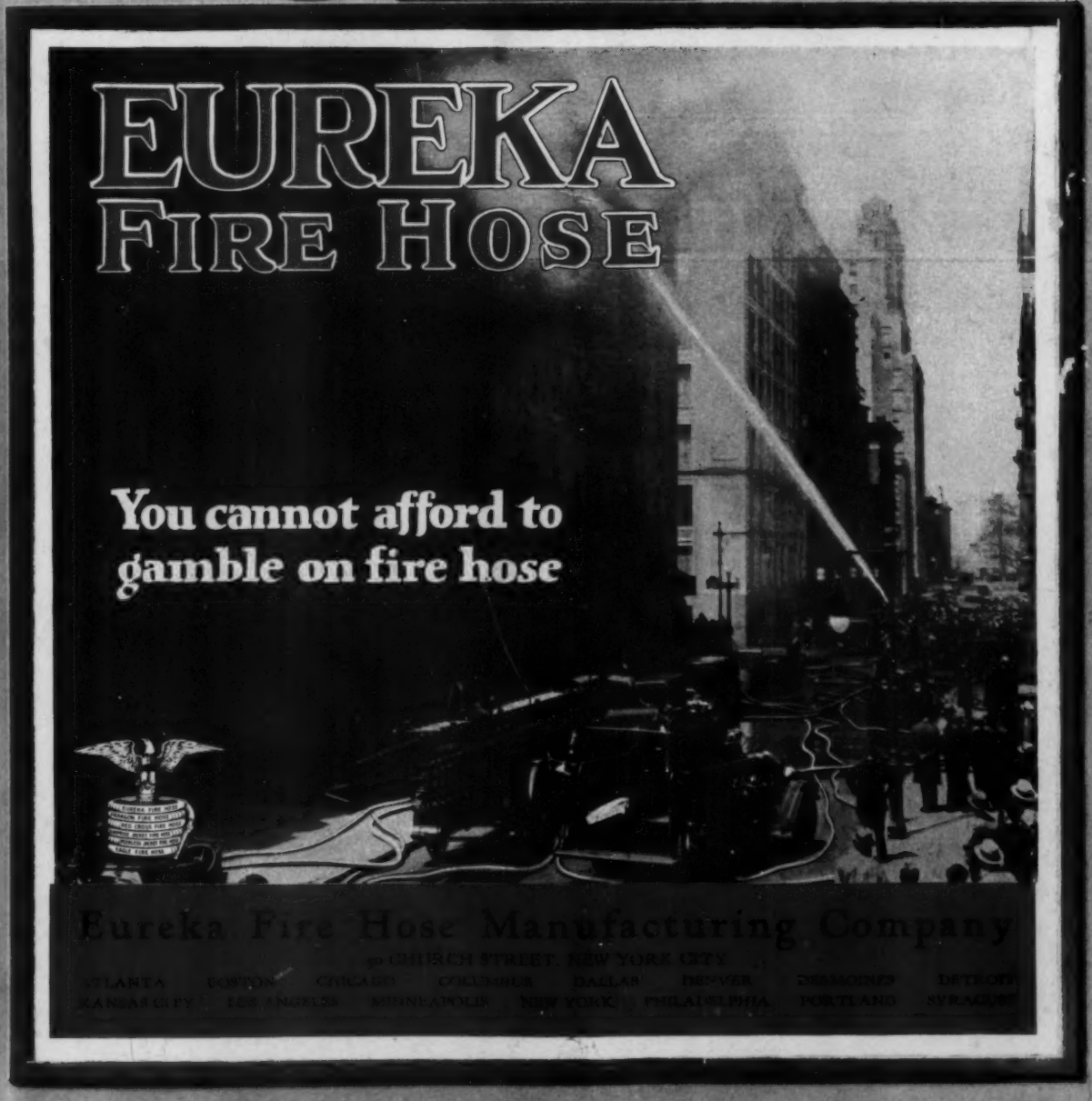
The Journal of the Fire Protection Profession

MAY 29, 1929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¶ In this respect you can always depend upon FIRE ENGINEERING to do its part.

The Publishers

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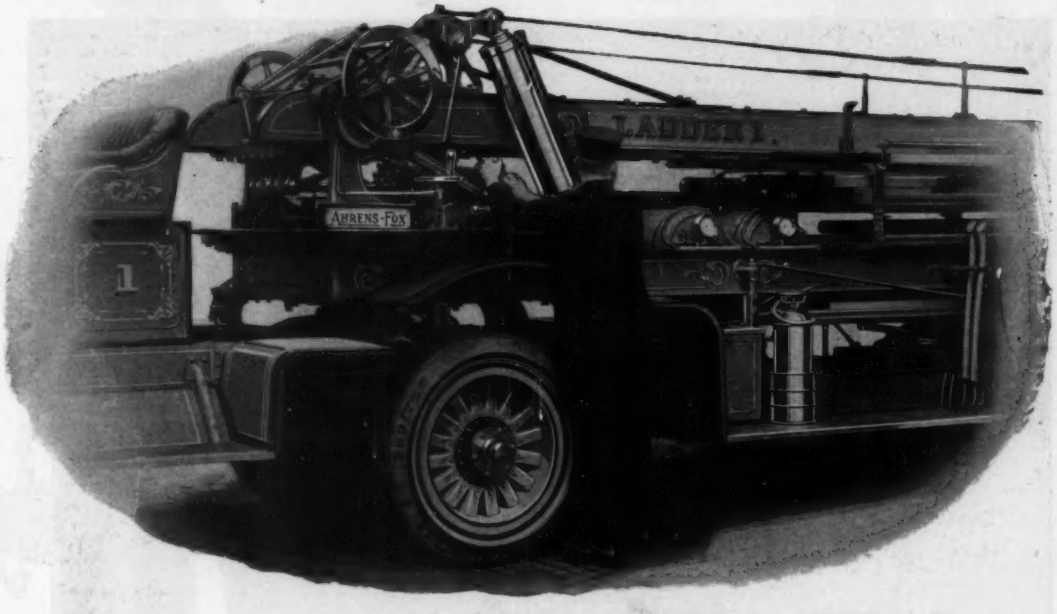
Ahrens-Fox



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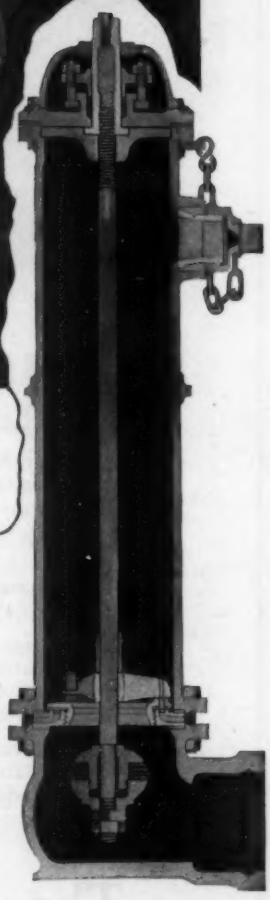
"Howdy Do," said Mr. Auto to Mr. Fireplug and then look what happened! Machine, you see, crashed into Fireplug and broke it. A flood resulted with considerable damage to neighboring buildings. Workmen are shown above attempting to pull back auto so that water might be shut off.



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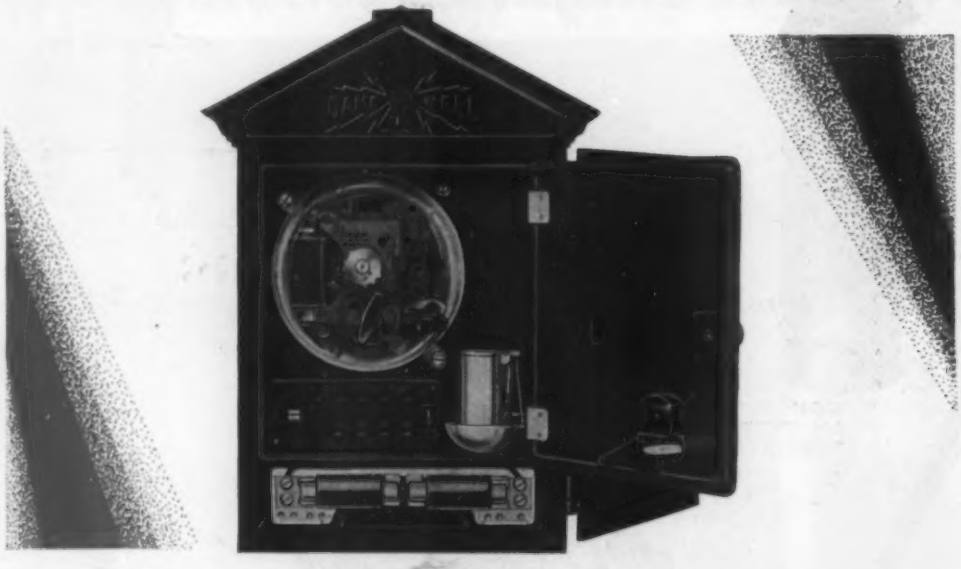

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(A Consolidation of FIRE AND WATER ENGINEERING and THE FIRE ENGINEER)

The Journal of the Fire Protection Profession

VOLUME LXXXII MAY 29, 1929 NUMBER 11

Cause of the Fatal Hospital Explosion

Blast in Room Where X-Ray Film Was Stored Releases Poisonous Fumes in Cleveland Clinic—Fire Loss Small

WORLD-WIDE interest was created as soon as news tickers printed the information that a hospital explosion claimed the lives of patients, doctors and nurses. A hospital fire is most serious because many persons within the buildings are unable to move. The following account brings out a danger that exists in many medical structures at the present time, and which chiefs should try to correct:

According to the latest figures, 124 men and women were killed or died later as the result of an explosion in a room in the basement of the Cleveland Clinic in Cleveland, Ohio, where X-ray films were stored. Investigations made later brought out the fact that there was a defective steam pipe in the room, and it is believed that the heat from this decomposed the film and caused explosive gases to be given off. A spark from some X-ray apparatus was at first believed to have exploded the gas.

The rapid decomposition of the film liberated vast quantities of poisonous, yellow fumes. The building had a modern ventilating system, and the immense volume of fumes that were generated were sucked up throughout the building by the fans that were installed to bring fresh air to the patients. In this way, sections of the hospital that would normally have been remote from any accident, were made to feel the effects of the explosion as though they were located adjacent to the damaged room.

One Effect of the Explosion

The long, straight corridors in hospitals act as flues for the rapid propagation of flames in heated gases, when fires start.

The film room was protected by a fire door. For some reason, the door failed to operate and flames spread to other portions of the hospital. The blaze swept up the rear stairway, feeding on the woodwork. It caused walls to bulge and windows to burst. The explosion occurred at 11:30 A.M., at a time when there were several hundred persons in the clinic. Many patients were in bed and some were on operating tables.

As the doctors and nurses were rushing about fulfilling routine duties, a deafening detonation shook the building. Immediately there was a stampede. Men and women scrambled for doors, windows and elevator shafts. A traffic policeman who was stationed near the hospital rushed in and started to carry out a woman. He staggered, fell, regained his balance and then fell again. Fellow-officers found his body fifteen minutes later.

Firemen responded under command of Battalion Chief Michael Graham. At every entrance the men were forced to turn back due to suffocating gases. Two firemen finally reached the roof and hacked their way through the skylight. Inside they found bodies packed deep in the space between the elevator and the stairway. Some of the victims were raised up to the roof through a trap door. Many were dead but some showed signs of life. Inhalators were sent up to the roof and used.

Chief Graham was lowered into the building and found the crushed bodies of ten persons who had been trampled to death in the mad stampede for exits. When it became apparent that rescuers would have difficulty in gaining entrance, Chief Graham ordered inhalators into the building, and while firemen with hose stood alongside preventing the advance of flames, applied respirators and worked on patients so that they could be taken outside partially revived.

Once entrance was gained, firemen and others commenced bringing victims out so fast that doctors and first aid workers on the lawn could not cope with the situation. The rapid action of the gas is best illustrated by the story of a man who was brought out and who protested that he was all right.

"Don't do a thing for me," he said. "The gas didn't bother me. Get the others who are dying."

Five minutes later he collapsed. Firemen lifted him into an ambulance and started him to a hospital. He was dead before he reached medical aid.

One policeman died after he had successfully taken out twenty-one persons from the gas-filled clinic. Bodies were rushed to hospitals in the city, and when examined were found to be lifeless.

In the room where the trouble started there was an accumulation of X-ray films that dated back four years. These films, with clinical notes, filled about three hundred pigeon

The Cleveland Clinic Hospital Where Doctors and Patients Lost Their Lives

holes, each two feet on a side and opening to the room. The small room was brick lined.

According to a steamfitter, he saw what he believed to be a fire. The heat of the escaping steam had started decomposition of the films. Puffs of yellow smoke burst forth from the ceiling at intervals. He went into the boiler room and called for a fire extinguisher and went back to discharge it on what he thought was a fire. The fumes overcame him and he fell to the ground. As he was on the floor, the fresh air revived him and he started to crawl to the next room. An explosion forced the steamfitter from the film chamber. He called out to an attendant in the boiler room and asked about an exit. Just then there was another explosion. This blew out a window and carried the mechanic with it. Luckily, he was not injured.

Major Gen. Harry L. Gilchrist, chief of the Chemical Warfare Service, left for Cleveland to make an investigation of the Clinic Hospital explosion. He was interested in the chemical reactions involved.

Experts of this army division were inclined to believe that nitrogen dioxide was formed by the decomposition of the X-ray films and that this gas was responsible for most of the deaths. The gas is well known to Navy officials. It has been a deadly agent in explositions in turrets of battleships and is also a factor in industrial explosions.

In an official statement made by Dr. William E. Lower, co-founder of the clinic and one of its directors, it was brought out that nitrogen-dioxide from the decomposition of nitro-cellulose X-ray films caused the deaths of the 124 men and women.

The condition that existed in the Cleveland hospital is not an abnormal one as far as hospitals are concerned. In an article published in the March 6, 1929, issue of FIRE ENGINEERING, a condition was described that parallels the present case. Part of the article follows:

"In recent years the fire hazards incidental to hospitals have increased. It is only necessary to call attention to the tremendous growth of the use of X-ray machines and, consequently, the inflammable films employed in connection with them.

"As the stock of films exposed, and otherwise, increases, additional facilities must be provided for the storage of these films. The simplest means of accomplishing this, in the eyes of the hospital superintendent, is to put up shelves in spare rooms adjacent to the operating or surgical rooms. The result is a constantly growing hazard which sooner or later may involve the hospital and cause serious loss of life.

"In September of 1923, a fire started in the film closet of a hospital, which was of brick construction with wood finishings throughout. The exposed completed negatives, some 12,000 in number were stored on 12-inch wooden shelves in the closet, and on shelves in an adjoining recess without a door, as well as on three open racks in the operating room itself. Fire was discovered by a nurse, in the operating room, who notified the doctor. He came in immediately, opened the door of the film storage room, saw the fire burning along the edge of the lower shelf and endeavored to put it out. Just as he put a soda and acid extinguisher in operation there was an explosion which threw him about fifteen feet across the room. A fire alarm was turned in and before the fire was finally brought under control the entire top floor, on which the film storage room was located, was badly damaged. *It is believed that decomposition of the film caused by the presence of steam pipes in the room, resulted in the fire.*

"A fire in a hospital is a much more serious proposition than is a fire in almost any other type of public building, due to the fact that a great number of the inmates are helpless. Their movement is frequently a difficult matter, for rough treatment may result in death."

The temperature at which decomposition takes place depends largely upon the ingredients in the film. The exact point is not of such great importance, for although the decomposition may be slow at low temperatures, just as soon as decomposition takes place the temperature rises and speeds up the disintegration. A report of the U. S. Bureau of Standards states that the best material they have been able to obtain can be brought to a sudden decomposition point if kept in an environment of 248° F., while with more perfect insulation or in larger masses, it might decompose at lower temperatures. Celluloid films cannot by themselves be detonated.

At 275° F., and over, decomposition takes place rapidly and ignition may follow. As to the temperature of ignition of the gases of decomposition, this cannot be definitely

(*Continued on page* 461)

Figure 1. Ideal Conditions for Complete Destruction

Here the lumber is shown stored in sheds on an elevated platform. Streams directed over the fire do not reach the burning lumber but the tops of the sheds instead. In addition, fire getting beneath the platform will quickly spread over a large area and involve all of the sheds with their contents.

Lumber and Lumber Yards

Provide the Makings of Hottest Fires the Average Department Has to Fight

LUMBER yards cause the average fire chief more apprehension than any other type of establishment. This is not only due to the combustible nature of materials involved, but also to the carelessness commonly shown around such establishments. Where there is a planing mill, a sash and door plant, or similar plant in connection with a lumber yard, the danger of fire is increased tremendously. This article treats with the handling of the lumber yard fire, minus the "woodworker."

The illustrations in connection with this article show better than any description would the arrangement of the lumber piles, their size, and other features which aid in making the lumber yard fire a hard one to fight.

Attention is particularly directed to Figure 2 in the right hand side of which is well illustrated the method of piling lumber. Note the even face along side driveways while the rear of the piles present the different ends of the pieces of lumber, forming myriads of spaces through which fire can travel, but which do not permit streams penetrating any great depth. Fire getting into the rear of piles travels rapidly, involves the entire piles and, due to inaccessibility, enables the fire to gain considerable headway in quick time.

The chief hazards involved in connection with a lumber yard fire are: tremendous heat generated; showers of embers discharged; danger of toppling of piles; large areas make it dangerous for men to penetrate into the lumber yard unless avenues of escape are properly covered by lines.

Fires in lumber yards usually starts from careless use of smoking materials, grass fires, locomotive sparks, improper heating equipment in shed or in office, etc. Where the piles are mounted clear of the ground on sleepers, fire starting from any of the above means may get beneath the piles and travel quickly thru the dry grass, wood waste, shavings, etc., found thereunder. If wind is blowing, the travel of the fire is very much expedited.

Upon the officer arriving first at the fire depends the success in handling the blaze. He must size up the situation and determine what apparatus will likely be needed, losing no time to call such apparatus.

It should be borne in mind when summoning additional apparatus, that large streams will be required and facilities for providing such streams must be secured by the first officer on hand.

The lumber yard is one type of fire which must be surrounded, if a good stop is to be made. While that may be entirely possible, particularly where a heavy wind is blowing, nevertheless three sides can be properly covered, and the fourth side, the lee, will have to be handled from the sides.

Heavy streams are absolutely essential for the initial work. If the wind is not blowing so vigorously as to make the position untenable, these streams should be operated from the lee side, or if a hard wind is blowing, as near the lee side as possible. Heavy streams of this sort will accomplish two things; provide great coverage by having greater range, and killing the intense heat created by burning lumber.

Small streams are futile when a lumber yard fire has gained considerable proportions due to the limited quantity of water they discharge, and the likelihood of the streams becoming vaporized before striking the burning materials. Heavy streams, having greater body, will stand a better chance of reaching the burning materials themselves than the smaller streams.

Deck guns are satisfactory for operating on such fires, and they can be placed toward the lee, but not so placed as to be cut off and destroyed should the fire spread too rapidly. Deck guns make it possible to sweep the

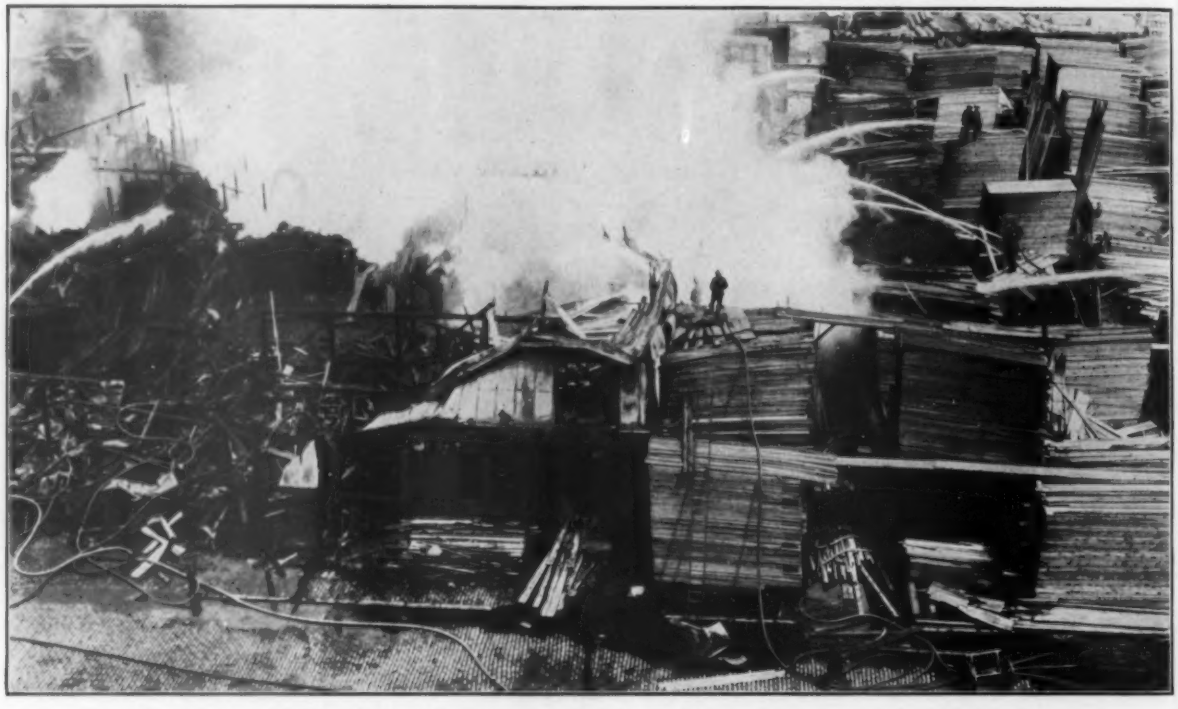


Figure 2. Successfully Handling the Spreading Lumber Yard Fire Requires Surrounding It With Streams

Here's the New York Fire Department in operation on a fire which occurred a few years ago. Note the excellent stop made as indicated in right hand side of the picture. Despite the high piles, the aisles littered with loose lumber, and the close piling, the department was able to confine the fire to an area slightly larger than that involved upon its arrival.

streams over large areas, and in addition, they serve the purpose of wetting down exposed lumber piles in a very effective manner. To accomplish this latter objective, streams may be directed vertically, and the wind will carry the spray over the area directly endangered by the fire, very effectively holding additional piles from becoming involved.

Figure 3. More Than the Lumber Piles to Look Out For

In many instances lumber yards are found surrounded by industrial establishments, many of which represent extreme fire hazards. Shown in the background of this picture is a chemical plant which, if involved would have made an extremely severe fire. To the right at the rear is an automobile assembly plant. That the fire department held the fire to these lumber sheds shows very good work on the part of the commanding officer.

The more mobile streams, of large caliber, can be shifted to points of advantage, and their position changed as conditions require.

Small streams serve chiefly for wetting down the smaller blazes beneath piles, in back of piles, and at points where large streams would be hard to handle, or unproductive of their full results.

Contrary to general belief, water towers are very effective in handling certain types of lumber yard fires. For instance, where the fire is burning near the center of the group of piles, and the heat is too intense for men to operate at close range, or operate from the top of adjacent piles, a water tower can be elevated and the streams sent downward at an angle right to the center of the fire. The ability to change the direction of water tower streams makes the tower a very effective weapon for handling such fires. In many instances lumber yards are surrounded by brick walls. In such a case, the water tower provides a stream of large caliber and at such a height as to strike down on the burning materials rather than pass over them, such as would be the case if streams were directed from the street level up over the wall.

Darkening the fire with large streams will quickly bring the fire under control, and then small streams can be brought into play in "mopping up."

One of the most serious conditions which develop in connection with lumber yard fires is the great shower of embers which is produced. These may carry the fire to distant piles by landing either on these piles or along side them and involving grass, shavings or other highly inflammable materials. To prevent the fire so extending, constant supervision on the part of the fire fighting force is necessary.

Members of truck companies not needed for other operations are usually delegated to patrol exposed areas, and report any fires which result from embers. Men so patrolling the exposed areas can effectively use hand extinguishers. It requires but very little fluid to check a fire shortly after it starts, and if the extinguisher is

(*Continued on page* 462)

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

CHIEFS realize that the first few seconds at a fire are more valuable than a similar number of minutes later on. That is why it is so important to reduce the running time in responding to a call. But with present day conditions and modern fire apparatus, it is possible to make long runs in a very few minutes providing the company responding has no handicaps to contend with.

Business areas have become so congested that it is difficult for apparatus to get by street intersections in the best time possible.

In the average city, just prior to the time the curtain rises in the theatres or just after the shows are over, the streets are so crowded with cars and pedestrians that it is difficult for fire companies to get by. It is not uncommon to see firemen jump off the apparatus and rush on ahead to open up a lane for the department.

The problem that is treated in this issue is printed in full in the box on this page. In the box on the following page is the problem that will be treated in the next issue. If you have some comments that you would like to make on the next problem or if you have a question that you would like to see treated in this department, write to the "Round Table Editor," FIRE ENGINEERING, 225 W. 34th St., New York, N. Y.

Here Is the Problem

What methods do you employ for reducing traffic congestion to speed up response to fire apparatus?

The Question

Many cities have installed sirens at bad street intersections as a solution to the picture described. Warning sirens or bells sound until the apparatus has gone by the point. The replies received follow:

John C. Moran, Chief, Hartford, Conn.: We have no trouble in this city through delays caused by traffic congestion while responding to the alarms of fire. Our only trouble is that occasionally we are hampered after arriving at a fire by parked automobiles.

The system used in Hartford is the electric system, these sirens are located at street corners in all congested traffic sections of the city.

The sirens used are 110-volt single phase D.C. Universal Federal sirens which are made for either D.C. or A.C. current. These sirens are all connected with a motor generator located in the battery room of the fire alarm office. The current from this generator is regulated by a general automatic adjustable control which raises and lowers the tone from these sirens and prevents too high a rated speed of the sirens which would produce a whistling sound instead of a full volume sound which reaches a much greater distance.

The motor generator is automatically started by pulling the hook of a street box, and by being on a common circuit including all box circuits it starts upon receipt of the first blow of the box and reaches full speed in seven and a half seconds. This current comes back to a common bus bar on the telephone switchboard on which are located fifty individual switches which are numbered, these numbers being used in connection with the assignment cards.

All of the assignment cards used have numbers corresponding to numbers on the switchboard which will operate sirens at all traffic points by which the apparatus will pass on the way to any particular fire. All companies of course having regular routes assignment for responding to any box location. Upon receipt of an alarm all the operator has to do is to expose the card of the box received and turn switches with corresponding numbers of the numbers on the assignment card. For still alarms of fires these box circuits can be operated individually and by turning on the motor switch at the telephone switchboard the current is turned on from the office.

A bull's-eye light on the switchboard lights when the motor generator is in operation to notify the operator and a switch at the telephone board permits the operator to shut off the motor when not used.

In the State of Connecticut the electric siren can be used only by fire and police apparatus so that it is really a fire signal and the people realize upon hearing it that it is a warning of approaching fire apparatus. We also regulate the speed of apparatus responding to fires. Instructions are issued not to exceed twenty-five miles an hour or less in congested districts. We had had reported only two minor collisions of apparatus and no injuries in three years. This system has worked successfully in this city for nearly ten years.

John L. Kreuzberger, Chief, Saginaw, Mich.: While the speed limit of fire apparatus is thirty miles an hour, the apparatus travels, whenever possible, on streets protected by "stop signs." Drivers of fire apparatus have their machines under control and do not depend entirely upon people obeying the traffic rules. Fire apparatus is driven from the front seat only. The officer riding with the driver issues orders only when necessary.

To my mind there is no possible way of completely controlling this traffic situation. What safeguarding there is to be done, must be a protective measure by the department itself.

Some protection is afforded by reserving certain streets as through streets. These are protected by "stop signs." Motor traffic is supposed to make a full stop and proceed only when the traffic against them is stopped. As a general rule people in general do pay attention to stop streets, the same as they do to the traffic signal system in the business district, but like everything else there are always those who will take "chances."

Our department has in the past years suffered several minor bumps by motorists. In each instance the motorist hit the apparatus broadside while coming off a side street. I am pleased to be able to add, however, there has been no loss of life or severer damage than a crumpled fender or some other minor damage. In each case the motorist acknowledged his fault and settled the repair bill.

Our police department has rendered assistance by following the apparatus and stopping violators and explaining to them in an intelligent manner the danger there is in hindering apparatus. I believe we are getting results by these methods.

Frank D. Scovel, Chief, San Bernardino, Cal.: The chief's car should precede the fire apparatus as a pilot. This car can dodge, stop or swerve much easier than an engine and serves as a guide. Established routes for fire apparatus are also very effective.

The public should be educated to the point where they stop immediately upon hearing a fire siren. Having the apparatus return over the same route which they took in responding to the fire, I have noticed, impresses people. People have a certain dread or curiosity in seeing the apparatus returning to quarters. In their minds they are saying that the fire is out, or when the apparatus returns immediately, they automatically know that it was another useless call to which firemen are ever called. This intimates carelessness on the part of someone.

Bernard J. Reilly, Chief, Ithaca, N. Y.: At the present time we have on an intensive campaign, headed by the Chamber of Commerce, to secure the cooperation of merchants, professional men, clerks and others who are in the habit of using their cars to business, to relieve traffic and street congestion by leaving their cars at home. So far good results are apparent.

All traffic lights in congested districts are turned red upon the approach of fire apparatus and remain so until the apparatus has passed.

A tower bell warns traffic officers and traffic that fire apparatus is approaching. All apparatus carries both bells and sirens.

We have an ordinance which makes it mandatory upon all vehicle traffic to pull to the curb and stop until apparatus has passed.

Here Is the Problem for the Next Issue

If you employ a fire siren, whistle or diaphone, for calling out firemen, what means do you employ for informing them as to where the fire is located?

Do they call up local telephone headquarters for the information?

If you find the telephone central congested by a lot of calls from others than members of the department after the fire alarm sounds, what method would you suggest for avoiding delay in getting firemen to the scene of the blaze?

Readers are invited to submit discussions on this question.

E. L. Kahley, Chief, Freeport, Ill.: We use precaution in passing stop signs. The police department has cooperated with us in regard to the officers getting to the corners and stopping traffic. Loud sirens are installed on all trucks.

We have a box at the central station which is pulled when the apparatus is to cross railroad tracks. This turns a light red over the tracks and a bell rings in the watchman's shanty. The red light acts as a semaphore.

Fred. Wittenberg, Chief, Valparaiso, Ind.: As this is a small city our problem naturally varies from that of the larger municipalities. We have the cooperation of the police who assist us in the downtown district. Traffic signals are installed in the more congested district.

Publicity is used in an endeavor to educate the public regarding hindering fire apparatus. Traffic ordinances are strictly enforced. With the cooperation of the police department we have endeavored to regulate the parking problem, such as parking on both sides of streets in the business section.

The town bell and sirens, and bells on trucks are used to clear the route taken by the apparatus.

Even in a city of this size the traffic problem is a serious one, partly due to carelessness and in some cases to sheer ignorance.

In responding to alarms we endeavor to make a quick run, but in returning to quarters drive as any ordinary car.

David M. Hudson, Chief, Chelsea, Mass.: We have no established form of systematic procedure promising freedom of movement in our responses to alarms of fire. Police cooperation has been our main reliance in the avoidance of traffic congestion, although routing changes are sometimes necessary. So far we have had very little trouble in consequence of over crowded streets. Our traffic situation seldom causes difficulties that impede the progress of fire apparatus to a serious extent. The streets here are narrow and congestion at certain hours is, of course, more or less severe. Multiple alarms cause bad congestion. However, we have so few of them that they do not constitute much of a problem. We have had no serious delays in our responses resulting from traffic congestion.

Daniel F. Sennott, Chief, Boston, Mass.: There are two laws upon the statute books designed in the interest of public safety as well as to allow the prompt response of fire apparatus to alarms. One of these laws provides that automobiles shall not follow within 600 feet of fire apparatus responding to alarms, and the other that on the approach of fire apparatus, automobiles shall draw over to the right curb and stop until apparatus passes.

Our officers are instructed to note any violation of these laws when apparatus is responding to alarms. Where violations are noted, they take the registration number of the car and the matter is reported to the police for prosecution.

We also have a street traffic regulation whereby cars are not permitted to park within twenty feet of a corner. We had a case of this sort some time ago which resulted in an accident to our apparatus. The matter was reported to the police and the owner of the parked car was brought into court, found guilty and fined.

F. H. Grabner, Chief, Baker, Ore.: Traffic congestion is a problem that all fire departments both in large and small cities are confronted with. Since the automobile is so common, we have had more trouble than we have had in former years. It seems that everyone wants to get to a fire before the fire department.

We have a city ordinance that requires all vehicles to pull up to the right hand curb and stop when the fire siren sounds. In small towns there are not enough policemen to stop the number of cars coming from all directions, but we have been making numerous arrests in an endeavor to correct this condition. Fines are imposed, on those arrested, for hindering the progress of apparatus responding to a fire. The names of the offenders are also published and this seems to be having some effect.

C. E. Underwood, Chief, Manistique, Mich.: We have a city ordinance directing all traffic to pull up to the right hand curb on the approach of fire apparatus.

We use electric sirens and exhaust whistles on all apparatus. A strong red light which is mounted on all apparatus is used at night.

Frank H. Miller, Chief, Terre Haute, Ind.: We have a synchronized traffic signal system in the congested district which is controlled by our fire alarm operator. Traffic is held at a standstill on the particular street on which the fire apparatus is running. We have had pretty good luck with this system. However, the apparatus moves very cautiously at times.

John J. Towey, Chief, Newark, N. J.: The traffic act of 1929 gives police and fire departments the right of way in the execution of official business by audible sound of bell, siren or exhaust whistle. This ordinance also requires vehicles to pull to, or as near as possible to the right hand curb on the approach of apparatus. They are to remain there until the police or fire department vehicle has passed.

We insist that this law is enforced to its fullest capacity and look for full and strict cooperation on the part of the police department and the public.

Donald J. Rayburn, Chief, El Dorado, Kan.: When an alarm of fire is received at fire headquarters, the fire alarm operator sounds the large electric siren which can be heard all over the city.

Street traffic lights are also controlled from the fire alarm operators' booth. Whenever the apparatus leaves quarters to answer a fire alarm, the operator turns the traffic signals on caution and leaves them on until the apparatus has had sufficient time to pass the congested districts.

Upon sounding of an alarm, or the approach of fire apparatus, every vehicle is required to draw up as near as possible to the right hand side of the street and remain at a standstill until all fire apparatus has passed.

David Lanagan, Chief, Dowagiac, Mich.: We have an electric siren at our water works which is blown when a fire alarm is received. The police take their place in the middle of the street in the congested district and stop the traffic until the apparatus has passed.

Fire apparatus has the right of way in this city and is not obliged to obey the stop lights when responding to an alarm. However, in returning to quarters, we do observe traffic rules.

John J. Sweeney, Acting Chief, Jersey City, N. J.: The

(*Continued on page* 460)

What Should Modern Rules Include?

Rules and Regulations for Drillmasters and Chiefs' Aids or Drivers Considered—Sixteenth of Series

IN this installment of the series of articles on the rules and regulations of fire departments are considered the rules pertaining to drillmasters and chiefs' aids or drivers. There are twenty rules regulating the duties of drillmasters and eleven those of the chiefs' aids or drivers, as compared with fifty-one for watch duty considered in the last issue of FIRE ENGINEERING.

Drillmasters

In four of the forty-one departments considered the following rule is incorporated:

"The Drill Master shall, subject to the order of the Chief of Dept., have complete and sole charge of the Drill Tower, all drill equipment and of the drilling of all members of the Dept., and shall have complete and sole command of such Dept. members as may be, from time to time, detailed or assigned for parades, escorts, exhibitions, or demonstrations."

Three of the departments consider the following three rules essential:

"The Drill Master shall keep a complete and accurate record of his operations and drills and shall on the first of each month, submit to the Chief of Dept. a complete detailed report of his activities during the preceding month."

"The Drill Master shall keep a book and note the names of each and every member who attends, and the company of which he is a member and the time of practice."

"Every candidate for the Fire Dept. of Waterbury, Conn., shall first report to the Dept. Chief, who shall assign him to the care of the Drill Masters for instruction. This shall take place directly after his appointment as callman or probationary fireman. And not until the said Drill Masters have filed a report of the man's qualifications with the Dept. Chief, who shall present the same to his superiors, shall the Board of Public Safety advance the said fireman to the regular or permanent force. In other words, the Drill Masters shall first certify to the Callman's ability as a fireman before being advanced to the regular force."

"He shall perform such other duties as may be, from time to time, required by the Chief of Dept."

These five rules are enforced in two of the departments:

"The Drill Master shall report direct to the Chief in charge of each second or greater alarm of fire."

"Drill Master shall have the rank and authority of District Chief and shall be obeyed and respected accordingly."

"In their work the Drill Master shall be civil and courteous at all times giving encouragement to the beginner and helping him as much as possible; reprimands may be given if necessary. The Drill Master should be reasonable and just in their work of overseer of tower work."

"When an alarm is given during drill practice the drill master shall excuse such firemen as may be deemed necessary to answer the alarm, providing the said firemen, at the particular time, is on call duty."

The rules which follow have been found listed in but one city each:

Fresno, Calif.

"The Drill Master shall from time to time, or as may be required by the Chief of Dept., formulate drills and evolutions as may be, in his poinion, necessary and proper for the maintenance and increase of efficiency in the Dept."

Waterbury, Conn.

"The Drill Master shall note the work of men and later, of they believe it to be for the better interests of the Dept., to call them in for further examination."

"The Drill Masters may postpone the drill school for the day on account of the weather, notifying the members of such action as soon as possible. Daily drills, however, shall be assigned for different shifts at least five days during the week, Saturday and Sunday and holidays being excepted."

Washington, D. C.

"The hours of duty of Drill Masters shall be from 9:00 A.M. until 4:30 P.M., and his headquarters shall be at such place as may be designated from time to time by the Chief Engineer."

"The Drill Master shall submit daily reports to the Chief covering entries made on his records."

"The Chief of Dept. shall have the authority to shorten the hours of drills, or omit same altogether when, in his opinion, the weather or other conditions warrant such action."

"New appointees when on day duty shall be detailed by the Battalion Chief in charge of their respective battalions, to the Drill School for 30 full drill days following their appointments."

"The drills shall consist of instructions and practical demonstrations by the Drill Master, together with such participation by the men under his command as he shall deem fit, in the use and care of all tools, appliances, and apparatus, carried on the engines, hose wagons, and trucks of the Fire Dept."

"One-half hour (from 12:00 noon until 12:30 P.M.) shall be allowed the Drill Master and his men for lunch. Men detailed to the Drill School shall report promptly at 9:00 A.M. and remain there subject to the orders of the Drill Master until 5:00 P.M."

Rochester, N. Y.

"The Drill Master shall promptly report any injury, however slight, received by any man, while attending the school, to the Chief of Dept."

"The Drill Master shall see that lifenets, gas masks, ropes in use by the Dept., shall be tested at least once every 6 months and properly labeled with the date of test."

Chief's Aides or Drivers

In four of the forty-one departments considered, the following two rules are incorporated:

"Orders and messages may be delivered by him from the Dept. Chief and shall be considered in the same manner as of delivered personally by the Chief but shall apply only during fires."

"The care of cars assigned the Dept. Chief and Deputy Chiefs shall be in the hands of such aides as assigned to this duty."

Three cities have incorporated in their rules and regulations the following three rules:

"Officers detailed as aides to the Dept. Chief shall be within call at all times, except when off duty with consent and approval of the Dept. Chief."

"He shall perform such other duties as may be assigned by the chief."

"Firemen detailed as drivers to the Chief, Deputy Chief and District Chiefs are to be considered as aides to the Chief during fires and may be used by such Chiefs in carrying orders to and from various officers."

These two rules are enforced in two of the departments:

"The member detailed as chief's aide or driver shall be with the officer at all times except when granted regular or special leave of absence, or otherwise ordered."

"The Chief's aide or driver shall be responsible for all messages transmitted through him to others and shall report to the commanding officer the result of such messages."

The rules which follow have been found listed in but one city each:

Portland, Me.

"Drivers designated as aides to chiefs, etc., are strictly forbidden to give any orders or directions not specially authorized or directed by such officers."

"Chief's aides or drivers shall acquaint themselves with the locations of all fire alarm boxes; all signals used in connection with fire alarms and with other matters of importance relative to the above, which may be of service to the Dept. or to themselves; shall be prepared to do active duty at fires when called upon and shall, at all times, give strict attention to the work required of them."

Providence, R. I.

"The aide to the Chief of Dept. shall rank as a private."

Milwaukee, Wis.

"In the absence of the chief's aid or driver, a responsible member will be chosen by the chief to assume his duties, wear his fire hat at fires, and be obeyed and respected accordingly."

Engine Companies—Pipemen, Hosemen and Hydrantmen

Three of the forty-one cities considered incorporate the following rule:

"It shall be their duty to keep the quarters, apparatus, and equipment clean and serviceable and perform all other duties as assigned to them in or out of quarters."

Two cities have incorporated in their rules and regulations the following two rules:

"Hydrantmen shall attend to all hydrants and cisterns in their respective districts, see that same are in good condition and ready at all times for immediate use."

"They shall also perform such other duties as may be required of them by their superior officers, or the rules and regulations of the Dept. (Hydrantmen)."

The following rules have been found listed in but one city each:

San Francisco, Cal.

"They shall visit and inspect cisterns in their respective districts once in each month, keep the same filled with water and see that they are in proper condition and ready for immediate use at all times. They shall report the condition of the several cisterns once in each month to the Battalion Chief of the District wherein said cisterns are located, but if for any reason a cistern becomes useless the fact shall be immediately reported to the proper Battalion Chief. (Hydrantmen)."

"They shall see that the hydrants are at all times kept free from obstructions of every character, so that access thereto may be readily had by the engines of the Dept. (Hydrantmen)."

"They shall register in books provided for that purpose the exact location of all hydrants and hydrant gates in their respective districts and see that said gates are conspicuously exposed and not covered or hidden in any way by pavement, bitumen or other material or substrance used for street purposes or otherwise. (Hydrantmen)."

Pittsburgh, Pa.

"During their tour of duty of hosemen attached to Engine Companies shall be on duty at their respective quarters at all times, except when detailed elsewhere at fires."

St. Louis, Mo.

"In the absence of the Capt. and Lieut. the senior pipeman shall perform their duties."

New Orleans, La.

"When on duty at fires pipemen of engine companies shall remain with the captain or officer in charge near the pipe."

Peoria, Ill.

"Every hoseman shall carry a hose wrench when on duty at a fire."

Minister is All-Around Fire-Fighter

Rev. Henry S. Habersham, seventy years old, of Monroe, Conn., is a rare type of fire-fighter. Besides diverting souls from the perpetual bonfire he is chief of the local fire department. Once during church service when the siren sounded, he stopped the service and rushed out to drive the fire apparatus.

Mainzer Guest of New England Chiefs

Robert H. Mainzer, honorary deputy chief of the New York Fire Department, and Rev. Father Patrick F. O'Connor, department chaplain, were the guests of the Box 52 Association of Boston at a dinner May 15 in the Hotel Westminster, Copley Square.

Seated at the head table were President P. Hildreth Parker, Vice President Bartlett Tyler, Chief Mainzer, Father O'Connor, Chief Sennott of Boston, Fire Commissioner Estabrook and Chief Allen of Brookline, Chief Hill of Belmont, Chief O'Hearn of Watertown, Assistant Chief Fox and Deputy Police Superintendent Goode of Boston, Superintendent Thompson of Boston Protective Department, William H. Lewis, Worcester, member of the executive board of Box 4 Associates, Gerald P. O'Brien of Gloucester, and George F. Cobb traffic manager of the New England Association of Fire Chiefs.

Covers were laid for 112 guests who were present from Revere, Danvers and other eastern Massachusetts towns, and from Providence, R. I.

Chief Sennott extended the greetings of the city. President Parker introduced Chief Mainzer as the first speaker. Mr. Mainzer told of his study of rescue work in Europe following the burning of the Equitable Building, New York City, in 1912. The result of this was the organization of Rescue Company No. 1 in New York City, the first rescue company in America. He also gave a review of the latest fire-fighting methods that he observed during his recent European trip. One of the most interesting was the one used in Budapest where certain fires are extinguished by means of dry powder forced through hose lines by compressed gas.

At the conclusion of this talk, President Parker presented Chief Mainzer with a marble desk set, suitably inscribed, as a token of the association.

Father O'Connor, New York Fire Department chaplain in the boroughs of Manhattan, Bronx and Richmond spoke of the work among the firemen and cited many instances to show its real value. The work is carried on by five chaplains without the slightest friction—two of the Catholic faith, two of the Protestant church and one of the Jewish faith. He strongly recommended the establishment of chaplain's positions in all fire and police departments. At the conclusion of this talk, President Parker requested Chief Sennott to bring this matter to the attention of Commissioner Hultman of Boston.

Following Father O'Connor's talk, motion pictures were shown of the Boston department, under the direction of James J. Donovan, aide to the commissioner. These pictures brought out in an interesting way, the actual working and living conditions of the men.

Chief Mainzer and Father O'Connor, were shown interesting points of the city, the following day, by Assistant Chief Henry A. Fox, and Frederick Blake, assistant secretary of the association. They were taken to the quarters of Rescue Co. 1, organized by District Chief Donahue, after studying rescue work with the New York company.

WITH THE EDITOR

How Prevent Repetition of Hospital Horror?

Naturally there will be a number of exhaustive examinations to determine the responsibility for the disaster in Cleveland, Ohio, where a defective steam pipe in the basement of a hospital caused the explosion of X-Ray films. These burning films threw off deadly fumes, known as nitrogen dioxide gas, which, being distributed through the ventilators designed to furnish fresh air to the patients in the wards and other parts of the hospital, spread death in all parts of the structure.

But, while these investigations as to who is responsible for this terrible slaughter, in which so far 125 men and women have perished, are important, and should be pushed to a conclusion, the most important thing to discover at the present time, is how to insure against the recurrence of such catastrophes.

Practically every modern hospital has on file similar X-ray films, and if carelessly stored, as were those in the Cleveland institution, these films form a menace to the hospital itself, and to the community.

If the X-ray films which were the primary cause of the Cleveland disaster had been properly stored in fireproof containers the 125 men and women who died would be alive today. Laid away in pigeonholes open to the air, and exposed to any outside heat that might play upon them, it only required the overheated steam pipe to complete the vicious circle which caused the disaster. It is interesting to note, in this connection, that FIRE ENGINEERING, in an article on "Safety vs. Convenience in Hospitals," appearing in the March 6 issue, called attention to the hazard of carelessly stored X-ray films, and cited an instance of a fire that paralleled the Cleveland disaster very closely.

In New York City, according to Fire Commissioner John J. Dorman, there is no possibility of a repetition of the hospital disaster. He says: "Inspections have been made so frequent and exacting that I feel justified in saying that no such occurrence as the very lamentable fire and loss of life in the Cleveland Clinic could occur in New York City. Our rules require that fireproof vaults, located outside the building, must be provided in which to keep inflammable X-ray film. Said vaults are to be constructed, located, ventilated and protected in accordance with plans to be submitted to and approved by the New York Fire Department."

The whole matter revolves around the proper storage of these dangerous films. If the unfortunate occurrence at Cleveland results in more general and careful inspections of hospitals by city authorities and the removal of the hazard to life and property resulting from carelessness in this respect, the victims of the disaster will not have perished in vain. It is to be hoped this will be the case.

Reducing Farm Fire Losses

A plan looking to the reduction of fires on farms has been tried out in the state of South Dakota with a fair meed of success. It was inaugurated by the State College Extension Service of that state, which utilized the monthly program issued for the use of community clubs throughout the commonwealth, for a program on fire prevention on farms. This service is in general use by these clubs throughout the state, and thus the circulation of the fire prevention propaganda was assured in practically three hundred such organizations.

In this literature was emphasized the fact that, while, on the whole, the fire losses of the country were on the decline, the figures show that the per capita losses among farms is on the increase. The amount of loss per annum in farm fires was placed at the staggering total of $150,000,000, and it was pointed out that the great bulk of the loss was by fires that were in their nature preventable.

It was suggested that the solution of the farm fire problem lies first, in a knowledge of the various causes of fire, and a wholesome respect for the danger lurking in carelessness and the neglect of proper precautions, and, secondly, unceasing and unremitting care in avoiding conditions which may cause fire to ignite and spread.

There can be no doubt that such propaganda is of immense value in awakening the individual farmer to his responsibility in the prevention of unnecessary fire. The more such facts are brought to his notice, backed up by convincing statistics and, perhaps, if obtainable, concrete examples of the results of carelessness, the more he will think deeply upon the subect of preventing such fires and removing the hazard of their occurrence, through the taking of ordinary precautions.

In many cases the modern farmer, through cooperative arrangement, has a local fire department at his command, composed of volunteers from the surrounding rural territory. But, where this is not the case, an appeal for help to the fire department of the nearest city or town will mean, if heeded, the temporary withdrawal of one of the units to fight the rural fires, leaving the municipality just so far unprotected. It is therefore to the interest of the chief to see to it that the farmers near his city are

as well informed as possible on the subject of fire prevention. The more they know about it and practice it, the less often will the town units be withdrawn to fight rural fires.

All in a Day's Work

The following tale is related to emphasize the fact that the fireman's job is not, by any means, confined to the extinguishment of fires and the rescue of languishing maidens (and others) from the top stories of high buildings. His jobs are, in fact, varied and manifold. But to the story:

Ira, a youth of ten years, in playing handball in the yard of a Bronx Borough, New York, public school, managed to lift this ball high over the fence and it sailed out of sight into the adjoining yard. Ira climbed the fence, and looked down into the depths below. There, lying beside his lost ball, were five others—a wonderful find not to be passed up! So Ira started to climb down on the other side. But his grip was not as sure as it might be, his fingers slipped, and he was precipitated to the bottom of the narrow space below.

So narrow was the enclosure between the fence and the wall of the adjoining building, that Ira's form was tightly wedged into the intervening space, and move in either direction he could not. That he lost no time in vocally making known his predicament and his involuntary confinement need hardly be pointed out.

Naturally, the patrolman who first arrived on the scene did what all wise policemen do when an emergency beyond their ken confronts them—he sent in an alarm for the fire department! It took the firemen one hour and fifteen minutes to release Ira from his imprisonment, and necessitated the cutting away of the wooden part of the fence before he could be lifted out of durance vile. He then appeared on the shoulders of a fire laddie, bowing and smiling to the plaudits of his goodly audience. He was presented with the six balls.

The moral to this tale is that the fireman is ready and cheerfully willing to render aid no matter where it is called for. Whether it is the rescue of a marooned cat in a tall tree, or the lifting of the ashcart or milkman's dobbin, which has fallen into an excavation, up to the open air, it is all in a day's work. His job calls for varied humanitarian services, whether it be the saving of the life of an individual who has inhaled gas, the rushing of an inhalator to the newly born infant, struggling to maintain its life against odds, or a hundred-and-one other calls of a similar nature.

It all goes to show that the fireman's job is a wide awake one, and one which, if the holder be in the least degree romantic, will appeal as no other position in the world can.

Apparatus Especially Equipped for Night Fires

Pasadena, Cal., has a car built by the local shops that is designed for service at night fires. It is equipped with a battery of flood lights—electricity is supplied by a generator on the apparatus. The body is fitted with large stream appliances. The apparatus has already proven its worth at night fires when smoke has obscured the building. Chief Ernest F. Coopes is at the left attired in rubber coat and cap.

FRANK H. WILLIAMS

CORRESPONDENCE

Formulas for Pump Pressure

To the Editor:

There has always been a great deal of trouble in obtaining proper pump pressures for various length of hose lines, as well as a uniformity of pressures when pumping engines are operated by different engineers. In order to eliminate these errors, the writer developed three simple formulas for obtaining approximately correct pump pressures, when using 2½" hose with 1", 1⅛" and 1¼" tips, which have worked out satisfactorily.

Considerable interest has been shown in these formulas by several of the inspection bureaus so possibly these formulas might be of value to cities having the same problems.

The formulas are based on furnishing approximately 50 pounds nozzle pressures, and are as follows:

1" nozzle: Engine Pressure $= 60 + (\frac{L}{100} \times 10)$

1⅛" nozzle: Engine Pressure $= 40 + (\frac{L}{100} \times 20)$

1¼" nozzle: Engine Pressure $= 50 + (\frac{L}{100} \times 25)$

L = Length of hose line in feet.

Add 5 pounds to pump pressure for each story the nozzle is used above ground.

These formulas work out so as to give theoretical nozzle pressures with 1" nozzle ranging from 56 pounds on a 100-ft. line to 50 pounds on a 1000-ft. line; with 1⅛" nozzle ranging from 44 pounds on a 100-ft. line to 56 pounds on a 1000-ft. line, and, with 1¼" nozzle a uniform pressure of 49 pounds for all lengths.

In actual practice, a fireman does not use the formulas as written but, instead memorizes only the values, 60 and 10, 40 and 20, 50 and 25, for 1", 1⅛" and 1¼" nozzles, respectively and the value for the length of line divided by 100 is conceived subconsciously.

The formulas are easily memorized. While they are not absolutely accurate, the practical results achieved are the equal of those obtained by the use of involved calculations.

The commanding officer of an engine company notifies the pump operator, the length of the line, the size of nozzle and the position of the nozzle, if above the ground floor. It is then the duty of the pump operator to run the pump at the correct pressure. There is nothing in this regulation, however, to prevent the commanding officer from ordering a higher or a lower pump pressure as the situation requires it.

Anyway, here are the standards used in the Washington Fire Department, and you can take them for what they are worth.

Yours truly,

O. E. FEARN,
Superintendent of Machinery, District of Columbia.

Middletown, N. Y., Opens Central Station—The public have been invited to inspect the new central fire station completed in Middletown, N. Y.

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified.

Hoisting Ladder; Boatswain's Chair

To the Editor:

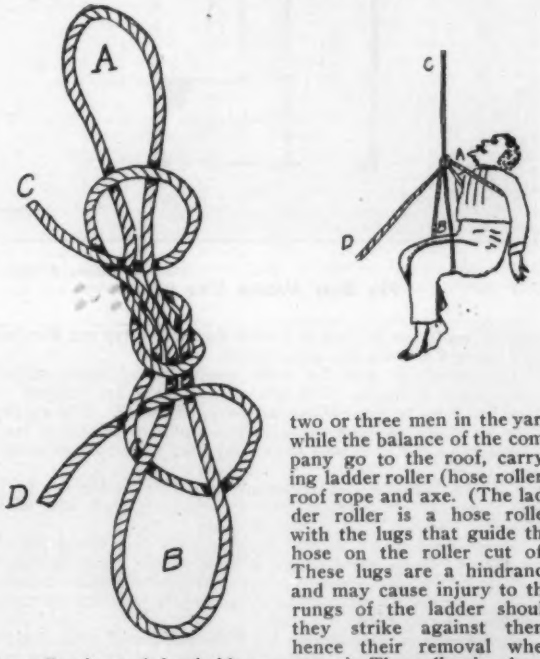
What are the proper methods:

(1)—Of raising a 20 foot ladder from the street to the roof on the outside of a building; of a 15 foot ladder; of a 10 foot ladder?

(2)—How is a boatswain's chair made out of a roof rope for lowering a person from the roof to the ground?

B. B.

Answer 1. The method of raising ladders in general to the roof of a building is as follows: First lay the ladder out on the ground with the top toward the building. Then leave



two or three men in the yard while the balance of the company go to the roof, carrying ladder roller (hose roller) roof rope and axe. (The ladder roller is a hose roller with the lugs that guide the hose on the roller cut off. These lugs are a hindrance and may cause injury to the rungs of the ladder should they strike against them, hence their removal when the roller is used for ladder purposes.) The roller is placed in position over the cornice and secured as soon as the men reach the roof. The men then lower one end of the rope to the ground. One of the men on the ground takes the end of the rope and after measuring off two arm's length he makes the rope fast to the ladder by placing two half hitches around each beam and a bow line on the rope, finishing up with a binding knot. When making the tie, one man usually raises the ladder shoulder high while the other man makes the knot.

As soon as the fastening is complete, the man in charge on the ground calls to the men on the roof to hoist. As the ladder is pulled off the ground one man grasps the butt and pulls the ladder out from the wall, turning ladder around so as to leave rope between wall and ladder and bring butt into wall. Ladder is then hoisted to the roof. As soon as the ladder is up so that the bow and knot is on the hose roller, two of the men on the roof grasp the ladder and pull the top down on the roof, then turning it over on the side, they pull it in on the roof. The rope is then removed from the ladder.

The rule for determining the point where the rope should be fastened to the ladder when hoisting to the roof is as follows: Divide length of ladder by five and multiply by two. This gives the distance, or rung, from the top of the ladder where the half hitches should be tied. As an example, for a 25 foot ladder, 25 divided by 5 equals 5 × 2 equals 10. Tie the rope at the tenth rung. The above procedure applies to ladders 25 feet or longer.

Fort short ladders of 20 feet or less in length, instead of using half hitches and bow line, the rope may be passed between the third and fourth rung from the top and the end of the rope fastened to the bottom rung with two hitches and a binder knot.

Answer 2. The boatswain's chair (or chair knot) is formed as follows: The knot is usually placed in the middle of a rope. Take hold of a rope with both ends, stretch out the arms at a right angle with the body, allowing rope to pass loosely through the hands; when extended to the full, hold fast the rope in each hand, knot with the bight, pull the knot tight, over each bight pass a half-hitch of the rope, and tighten it down to the knot. In the sketch herewith, A is the arm loop; B, the leg loop; C, the hauling part; D, the guide or support.

Would a Pumper Help?

To the Editor:

I would appreciate it very much if you will answer the following questions for me.

Question. 1. What pressure and gallons per minute would you have flowing from a single line of 2½-inch rubber lined hose from a single hydrant, length of hose line being 500 feet, to an elevation of approximately 30 feet, using a 1-inch smooth nozzle at the end of the line, and a 60 pounds pressure at the hydrant?

2. What pressure and gallons per minute would you have flowing from a double line of 2½-inch rubber lined hose connected to a single hydrant; each line being 500 feet in length, to an elevation of approximately 15 feet; with a 1-inch smooth nozzle at the end of each line, and a pressure of 60 pounds at the hydrant?

3. What pressure and gallons per minute would you have flowing from a single line of 2½-inch hose on the level, length of line being 750 feet, using a 1-inch smooth nozzle at the end of the line, 60 pounds pressure at the hydrant?

4. What advantage would there be in using a 500 gallon triple combination pumper in each of the above cases?

Very truly yours,

M. F. A.

Answer 1. In this case the 30 feet elevation of nozzle would represent a back-pressure of 13 pounds, leaving 47 pounds available at the hydrant for overcoming friction in the line of hose and giving nozzle pressure. The nozzle pressure would be in the neighborhood of 22 pounds, and the discharge 138 gallons per minute.

Answer 2. This problem involves two parallel lines each independent of the other. It will be assumed that the hydrant pressure will not be affected by the flow of the two lines—in other words, it will not drop when both lines are in operation. The back pressure in this case, due to the 15 foot elevation of the nozzle, will be 6.5 pounds, leaving 53.5 pounds available for overcoming friction in the hose and giving nozzle pressure. In this case the nozzle pressure will solve out to be approximately 25 pounds, and the discharge 148 gallons per minute.

This is for each line. For the two lines the flow will be twice as much, or 296 gallons per minute.

Answer 3. In this problem there is no back pressure to be taken into account. The entire hydrant pressure is employed for overcoming friction loss, and giving nozzle pressure. In this case nozzle pressure would solve out to be 22.2 pounds and the discharge at this pressure would be approximately 140 gallons per minute.

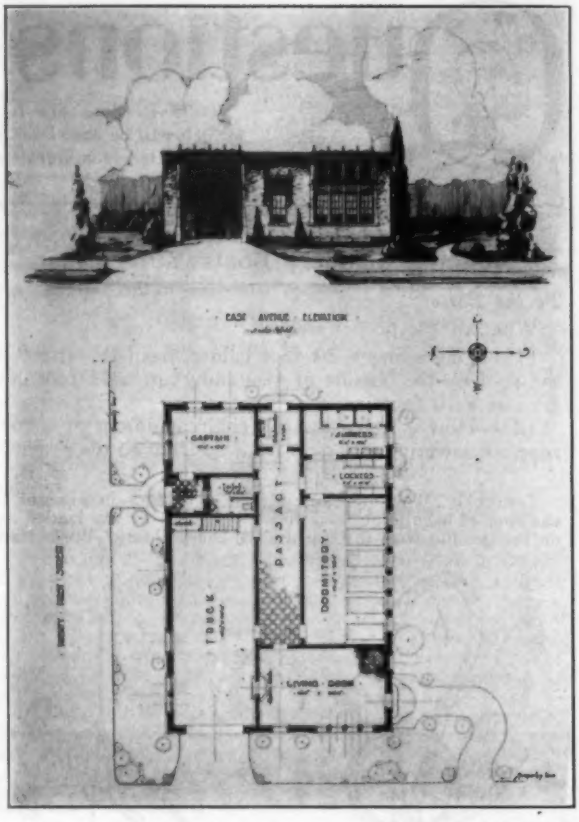
Answer 4. The advantage of using a 500 gallon triple combination pumper in each of the above cases would be tremendous. Instead of having ineffective nozzle pressures (any pressure less than 40 pounds is not considered fully effective) you would have good stiff streams, with pressures at almost any point desired. In other words, the engine would not only boost the pressure in the layouts given, but would make possible the employment of longer stretches of hose, with effective nozzle pressures delivered at the nozzle.

Larger size tips, too, could be employed satisfactorily. A 1-inch tip is not satisfactory for a spreading fire, nor for outside work in general. A 1⅛- or 1¼-inch tip, in an emergency, might be employed were a 500 gallon triple combination pumper at hand. There is another condition which enters into this problem and that is the supply from the main. Usually when more than one stream is taken from a hydrant, and the hydrant is attached to a small main, there is a distinct drop in pressure in the hydrant, which may make both streams ineffective. In this case a pumper is an absolute necessity.

Two Attractive Stations for Austin

Plans for two well designed fire stations have been prepared by Giesecke and Harris, architects with offices in Austin and Houston, Tex.

The East Avenue station was erected, except for a few minor details, in accordance with the illustration. The house is of the Spanish type and the dimensions are thirty-five feet front by fifty-five and one-half feet deep. The exterior walls consist of four-inch face brick with eight-inch common brick backing. The interior walls are of plaster on two by four-inch studs. The interior walls are finished in a style that will carry out the design and express a home-like atmosphere.



Plans by Giesecke & Harris

The East Avenue Fire Station

The station is provided with ample locker space, showers, kitchen and so forth. The truck room walls are finished with face brick up to the ceiling which is of metal. The entrance door is of the overhead type and is equipped with fire station hardware so that it is possible to open the door with remarkable rapidity.

The low bids received for erection of this station are as follows: general construction, $9,754; plumbing, $661, and wiring, $174.50. The total cost is $10,589.50.

There is a side entrance to the station leading to the captain's office. The living room is at the front of the house so that the majoriy of the men stationed there will have the more attractive view. Plenty of light for the dormitory is provided by the six windows in that room.

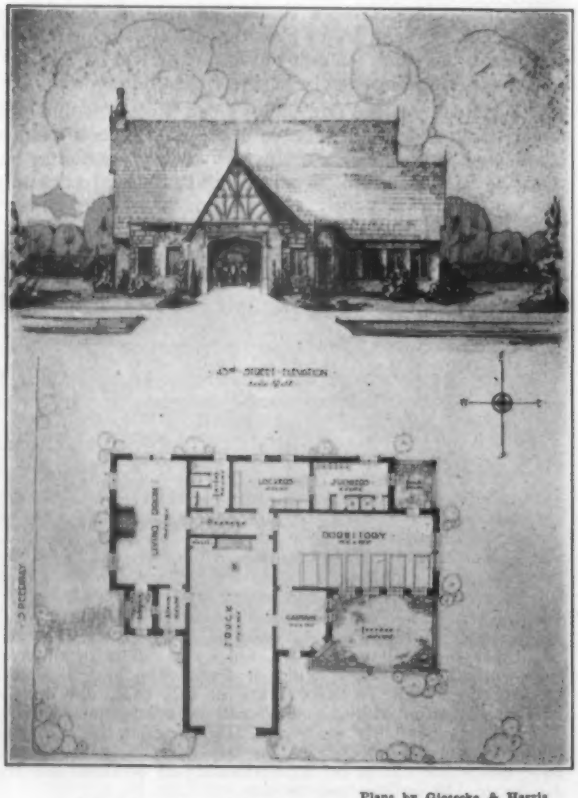
The Speedway Fire station is of the residential type, designed along Dutch bungalow lines. The plans of this house were modified somewhat in order to cut down construction costs.

The exterior walls are of eight-inch common brick which will be painted white. The interior walls are of plaster on two by four-inch studs. The finish will harmonize with the other parts of the interior. The roof will be of asbestos shingles in a gray shade.

The equipment of this house is similar to the East Avenue station. Each will accommodate five men and a captain. The truck room is designed for one truck. Both stations are equipped with the same type of entrance door for the apparatus room.

The low bids received for the construction of this station are as follows: general, $7,397; plumbing, $725, and wiring, $165. This makes a total of $8,287.

There are many windows to provide ample light for the rooms. There is an entrance from the terrace to the captain's office, and an entrance from the side to the living room.



Plans by Giesecke & Harris

The Speedway Fire Station for Austin, Tex.

Sherman, Tex., Wants Platoon System—The council of Sherman, Tex., is considering establishing the platoon system for the fire department. A report was presented by the city manager concerning the way the system has worked in other Texas cities.

DENSE SMOKE HAMPERS FIREMEN AT CANADIAN CATHEDRAL BLAZE

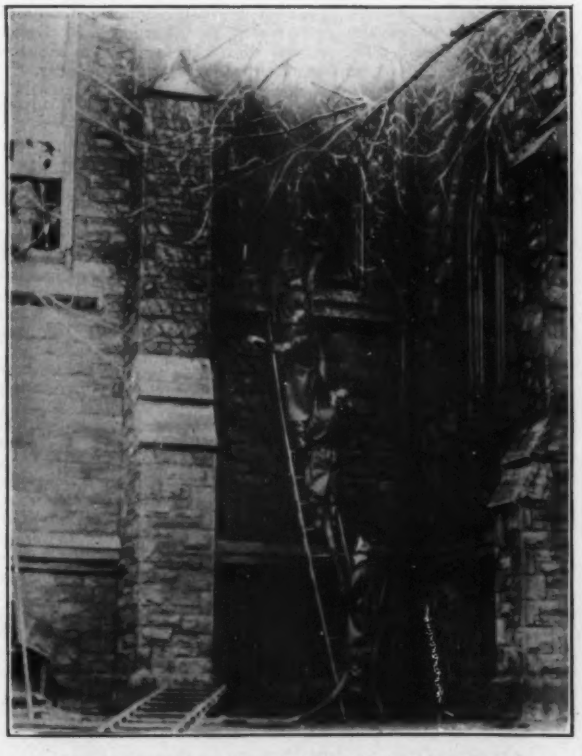
Alarm Turned in by Boy Who Did Not Wait for Apparatus — Department Believed Alarm Was False—Memorial Windows of Church Saved

By JOHN KARL LEE

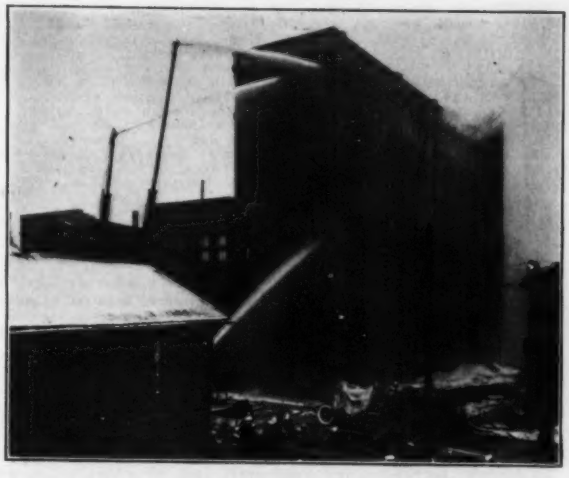
ST. ALBAN'S CATHEDRAL unfinished diocesan center at Howland and Barton Ave., Toronto, Canada, occuping a city square, was gutted by fire originating in the basement. The cause is attributed to defective wiring. The erection of the Chapel, or the first half of the church, was begun in 1887 and the foundation of the addition in 1912. It was built of grey stone along Gothic design with slate roof supported by oak arches; the interior in oak. Due to good work of the fireman, the war memorials and several of the memorial windows and roof were saved.

The fire was discovered by a boy riding a bicycle on Howland Ave. He pulled a box two blocks from the church, and he rode off. When the 1st alarm assignment under District Chief Fox arrived they found no fire and thought the alarm false. As Engine 23 was returning smoke was seen issuing from the church on the north side. One line was placed to the entrance of the church but owing to the dense clouds of smoke they were unable to enter. A second alarm brought Chief Russell, Dept. Chief Duncan McLean, Dept. Chief Geo. Sinclair, Chief Simpson of the Fire Alarm Telegraph, Dr. Hill the Dept. Surgeon and four 1,000-gallon American-La France triple combination pumpers, two 800-gallon American-La France Triple combination pumpers and two 1,000-gallon Gotfredson triple combination trucks, two 85-foot La France Aerials, two La France city service trucks, one gas oil car, and the White emergency car from the gas company. Dist. Chiefs Corbett and See also responded.

When the second alarm assignment arrived dense clouds of smoke were issuing from all over the building. Firemen tried to enter the building but owing to smoke and heat this was imposible. Dept. Chief McLean ordered the laddermen to open windows on the north side in order to ventilate. Chief Russell had the men play five streams through the windows on the north side, two streams on the east and four streams on the south side. As the smoke thinned down the men were able to gain admittance into the church from the west and north side. Three streams were used in the basement and several in the church. The fire was burning fiercely in the crypt. Dist. Chief See and Captain Johnston were leading their men through the church when the floor caved in and they plunged twenty-five feet into the basement beside the boilers in four feet of water. Through the quick work of Dept. Chief McLean and Dept. Chief Sinclair, the two injured men were rescued from the crypt and removed to their homes in the police ambulance. Fifteen hose stream were used most of the fire was confined to the basement. At 6 p.m. the hose streams were reduced to four and the second alarm companies returned to their quarters. At 10:30 p.m. the fire was struck out, after a hard six-hour battle. The water pressure was excellent during the fire. A large crowd of spectators gathered and were held back by the police.



Firemen Entering Church After it Was Ventilated



Twenty-four Companies Called to Fight Chicago Fire

The building occupied by the Eagle Wrapping and Progressive Sales Company in Chicago and containing stores of paper and celluloid, developed into a stubborn fire that made it necessary to call out twenty-four companies. So much water was played on the fire that firemen had to wade knee-deep in water. Heavy stream appliances were used freely.

WHAT'S BURNING

THE following list includes fires of $25,000 loss and over in the United States and Canada, for the periods designated in the headings. These figures, compiled from telegraphic reports, are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousands.

Week Ending May 17

SARATOGA SPRINGS, N. Y.—Garage of the Saratoga Motors.. 25
BELLAIRE, PA.—Farm property of Chas. Musser..... 25
CHICOUTINI, QUE.—Chevrier garage damaged..... 25
MUSKEGON, MICH.—Mason block destroyed..... 25
BIG PINE, CALIF.—3 bldgs at June Lodgs, 2 mi. south..... 25
SAN FRANCISCO, CAL.—Factory of Peerless Lighting Co..... 80
BRATTLEBORO, VT.—Bldg. of Roberts Auto Co..... 25
REEDSBURG, WISC.—Richland County Poorhouse..... 25
NEWARK, ARK.—First National Bank, adj. property..... 125
MILLBOURNE, PA.—Bldg. of Lumber & Millwork Co..... 250
AUGUSTA, N. J.—Dairy of Model Dairy Co. of N. Y..... 80
PUGWASH, N. S.—Two churches, dwellings, hotel.....100
FISH'S EDDY, N. Y.—Faul Hotel, adj. property..... 40
NORFOLK, VA.—Whse. of Farmers Mfg. Co.....25
STERLING, MASS.—Residence of C. W. Patten..... 25
ST. LOUIS, MO.—Bldg. occupied by D. A. Coleman Co..... 40
SNOWSHOE, B. C.—Sawmill property destroyed.....100
BELLEVILLE, ONT—L. C. Cooper's flour mill..... 25
NEW BALTIMORE, N. Y.—Busines district destroyed..... 65
BINGHAMTON, N. Y.—Exchange Bldg. damaged..... 25
WATERLOO, WISC.—Whse. of Wisconsin Popcorn Co..... 25

Week Ending May 25

PERRIN, TEX.—Business block destroyed..... 35
BELOIT, WISC.—Home of Wm. Davenport destroyed..... 30
DUNSTABLE, MASS.—Barn and dwelling of E. D. Swallow..... 25
MURFREESBORO, TENN.—Plant of Butman Overall Co..... 30
JUNCTION CITY, OHIO—State brick mfg. plant..... 40
TELL CITY, IND.—Tell City flour mills destroyed..... 35
WHITE BEAR, MINN.—Mills of White Bear Knitting Co.....150
WORTHINGTON, MINN.—Luffey garage and adj. property..... 30
PHILADELPHIA, PA.—Factory of Belmont Packing Co.....125
JOLIET, ILL.—Property owned by Fred. Engimann..... 30
EUREKA, WISC.—Prahl grocery and adj. property..... 25
PENTWATER, WISC.—Tower Theatre destroyed..... 25
POTTSVILLE, PA.—Apt. bldg., 2nd and Sanderson Sts..... 60

STONEHAM, MASS.—Residence of L. W. Standish..... 25
DAWSON SPRINGS, KY.—Plant of Dodge Long Lumber Co..... 25
NEW ALBANY, IND.—Bldg. of J. Tegart & Co..... 25
MELBOURNE, ARK.—Business property destroyed..... 40
HALIFAX, N. S.—Victoria Apt. bldg., Hollis St..... 25
KENNARD, NEBR.—Nelson store and adj. property..... 30
KANSAS CITY, MO.—Plant of Ready Mixed Concrete Co..... 40
COYTESVILLE, N. J.—The Castle-on-the-Hudson, hotel..... 45
E. GRANVILLE, VA.—Mill of DeMerritt Dickerman Co..... 40
DORCHESTER, WIS.—Dorchester State Bank, adj. property..... 40
OMAHA, NEBR.—Louis Sommer grocery destroyed.....125
OSCEOLA, ARK.—Beall Hotel, B. H. Green, owner..... 65
AMESBURY, MASS.—Cohen Shoe Mfg. Co. plant..... 40

Massachusetts Chiefs Elect Officers

New officers were elected by the Fire Chiefs' Club of Massachusetts at the monthly luncheon and annual business meeting held in the Barker House, Boston. There was a large attendance from Rhode Island. The members stood in silence in memory to the late Chief William F. Daley, of Brockton, a former president, who was drowned in a fishing accident in Maine.

The officers elected are Chief Seldon R. Allen, Brookline, president; Chief Alfred L. Mead, Quincy, and Chief Frank E. Tracy, Woburn, vice-presidents; ex-Chief F. Burt Jaquith, Randolph, secretary and treasurer, and directors consisting of Chief Charles L. McCarthy, Worcester; ex-Chief John E. Sullivan, Plymouth; ex-Chief H. Howard Upham, Needham; Chief Thomas Mahoney, Westfield, and Chief Daniel F. Sennott, Boston. Chief Thomas A. Qualey, Medford; Chief Daniel B. Tierney, Arlington, and Chief David A. De Coursey, Winchester, were elected auditors. Superintendent Henry E. Thompson, of the Boston Protective Department was chosen sergeant-at-arms, and George F. Cobb, Boston, traffic manager.

Wyoming Firemen to Meet in July

Plans are being made for the Wyoming State Firemen's convention that will be held in Laramie, July 3 and 4. Julius Pearse, Denver, is publicity manager; H. F. Ottee of Evanston, president and Chief J. H. Patrick, secretary.

The "Battle of the Flames," that was exhibited in Denver last year, will be a featured part of the entertainment. A five-story building, especially constructed for the event, will be saturated with gasoline and set on fire. There will be a tournament in which Colorado and Wyoming firemen will compete.

Jay W. Stevens, executive secretary of the International Association of Fire Chiefs, is scheduled to speak. Others on the program are L. A. Barley, chief engineer of the Mountain States Inspection Bureau, Denver; Reuben W. Hershey, manager of safety, Denver; Clinton Turbull, secretary of the Colorado State Firemen's Association; Capt. W. J. Martin, chief of the fire prevention bureau, Denver, and "Smoky" Rogers.

New York Fire Department Officials Believe in Seeing for Themselves

A committee of New York Fire Department officials visited factory of the Seagrave Corporation in Columbus, Ohio, to inspect the first of forty-eight hose cars that are now being built for the city. In the photograph from left to right are Lester Stevenson, sales manager of the Seagrave Corporation; Chief John Kenlon of New York; Chief Richard Marshall of New York; Commissioner John J. Dorman of New York; Hubert Treacy chief of the Bureau of Repairs and Supplies of the New York Fire Department; Fire Marshal Gill of Ohio; Mr. Spain of the Seagrave Corporation and Deputy State Fire Marshal Lee.

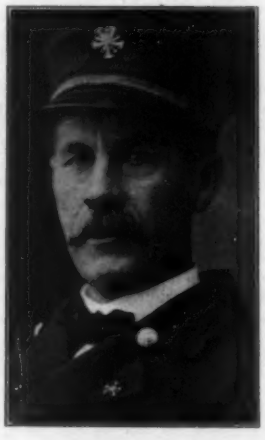
CHIEF DENGER, DAVENPORT, DIES AFTER LINGERING ILLNESS

With Fire Department for Forty Years—On Inactive Duty Since November, 1928, Because of Rheumatism—Had Many Friends

DAVENPORT firemen, and officials from many surrounding communities paid their final tribute to Peter Denger, chief of Davenport, Ia., fire department for many years. He died following an attack of rheumatism that troubled him since November, 1928, and forced him to remain at home.

On May 9 many friends called at his home to help him celebrate his thirty-ninth year as a member of the fire department and his seventieth birthday.

Back in May, 1919, Chief Denger's ninth anniversary as head of the department was made the occasion of a highly complimentary testimonial dinner by the citizens. A volunteer committee collected subscriptions and purchased as gifts for the chief a gold watch and chain, a leather covered library chair and other useful gifts for his home.



The Late Chief Peter Denger

During his regime civil service measures were introduced. This increased the efficiency of the department, for it was divorced from the bad effects of politics.

He joined the department on May 8, 1889, and worked his way up through the ranks. May 1, 1910, he was appointed chief, and he has served nearly nineteen consecutive years. Since his appointment as head of the department Chief and Mrs. Denger have not missed a convention of the International Association of Fire Chiefs, up to the time of the recent illness.

Richard A. Kelley succeeds the late chief as head of the fire department.

Report on Cleveland Hospital Holocaust

For the benefit of members of the National Association of Police and Fire Surgeons and Medical Directors of Civil Service Commissions, a special report or memorandum is being prepared and based on information now being gathered by Dr. George P. O'Malley, Police Surgeon of Cleveland and president of the association. In a series of communications to Dr. Harry M. Archer, honorary medical officer of the New York Fire Department and former president of the association, Dr. O'Malley is supplying the secretary's office in New York with information which is being compiled and which is bound to be of benefit to the medical men who specialize in police, fire and civil service problems.

The Cleveland Clinic disaster will be one of the subjects for discussion at the coming convention of the association, to be held in Detroit, Mich. next September. The association has been organized six years and its membership embraces the police, fire and civil service physicians of the principal cities of the country. It was founded by Dr. Hubley R. Owen, of the Dept. of Public Safety, Philadelphia, Pa.

The members of the association acquitted themselves splendidly last October when injured members of the Los Angeles Fire Department football team were cared for and treated at various stops en route from New York to the coast upon notification by telegraph from Dr. Archer when the train left Grand Central station. This service alone endeared the members of the association to the fire departments of the entire country.

Lakeview, Ore., to Buy Pumper—Lakeview, Ore., is considering the purchase of a pumper to cost $6,300.

Mine Appliance Wins Rice Award

The Mine Safety Appliance Company of Pittsburgh, Pa., manufacturers of devices for the prevention of accidents and death, has been awarded the Cecil G. Rice safety award, given annually by the Western Pennsylvania division of the National Safety Council to the member company having the least number of accidents among the employees during the year.

The Rice Safety Award

This company employs 503 men and women at their plant and but thirty-four days of lost-time accidents were recorded in 1928. There were no fatalities or permanent disability cases in this period. The award is especially interesting for it indicates that the company practices the doctrines that it preaches in its every day routine.

Employees of this company are engaged in developing detective and resuscitating equipment for poisonous and explosive gases, and they are exposed to hazardous conditions in the course of a year's time.

Tentative Program for Illinois School

The full list of speakers for the Fifth Annual Short Course to be held at the University of Illinois, has not been arranged, but the list at the present gives sufficient evidence that the instruction will be very profitable. The school will be conducted under the auspices of the Illinois Firemen's Association, June 25-28.

D. J. Price, of the Department of Agriculture, will speak on dust explosions, drugs, paints, gasoline handling and storage, explosives and spontaneous combustion. In the afternoon of the first day there will be ladder work in charge of the drill master of the Milwaukee Fire Department.

In the morning of the second day a representative of the American-LaFrance company will talk on progress in fire fighting equipment, and Clarence Goldsmith, assistant chief engineer of the National Board of Fire Underwriters, will explain the hydraulics of fire streams. In the afternoon Mr. Goldsmith will give a number of stream demonstrations and point out the value of 1½-inch hose.

The following morning A. Hofstetter is to talk on ventilation. Frank C. McAuliffe, chief of the Chicago Fire Patrol, will speak on salvage work. Victor Tousley, of the National Fire Protection Association, will deliver a paper on electrical hazards. In the afternoon there will be demonstrations of resuscitation and first aid work, in charge of Harry K. Rogers.

Mr. Rogers is scheduled to deliver two papers on June 21—the last day of the school. He will talk on the organization and maintenance of the volunteer fire department, and equipment of the volunteer fire department. Chief Al Herring of Murphysboro, Ill., has a paper on rural fire fighting. A representative of the International Harvester Company will discuss private plant protection.

The school will close with a demonstration, in the afternoon, conducted by the Seagrave Corporation, on chemical fire extinguishers, apparatus equipment and first aid equipment.

Pacific Coast Chiefs to Meet in July

The Pacific Coast Association of Fire Chiefs will meet in Vancouver, B. C., July 23-26, with headquarters at the Vancouver Hotel. Music during the convention will be furnished by the Pasadena Fire Department Band, and the Seattle Fire Department Orchestra and Quartette.

Papers will be presented on rural fire protection, approved vs. non-approved appliances, manufacture and use of nitrocellulose lacquers, use of dynamite during conflagrations, carbon-dioxide gas, fire fighting in extreme cold weather, use of water at fires, booster pumps, and the fire alarm system.

The ladies' committee have planned theatre parties, shopping trips through the historic Hudson Bay Store, and other means of diversion. The local committee suggests that reservations be made immediately as Vancouver is always filled with tourists during July and August.

Ohio Chiefs Will Meet in Sandusky

Officers and directors of the Ohio Fire Chiefs' Association have set aside one day of the convention for an inspection of the exhibts and for demonstrations planned by manufacturers. The gathering will be held in Sandusky, June 11-12.

Last year, at the meeting in Marion, there was a record attendance of six hundred persons. It is hoped that the registration figures this year will be even better.

The Island and Terminal Transfer & Storage Co., Sandusky, has been selected to care for exhibit material, at a rate of ten cents a hundred pounds. All material to be placed on display should be addressed to the Ohio State Fire Chiefs' Convention, care of this transfer company. No charge will be made for exhibit space. The space for displays is much larger than was provided at the meeting, last year.

New Tower Designed as Fire Escape

An apparatus is being developed by James A. Anania, of Harrison, N. J., that will serve as an aerial tower and a fire escape. According to patent claims it will do away with special water towers and a great deal of manpower.

By a system of shifts and gears, two great steel tubes are raised to a height over two hundred feet. Sliding between the tubes or hollow cylinders will be a wide platform just like an elevator with the top off, and on this, inventor claims, a dozen humans and bulky possessions can be lowered to safety. Moreover, at the same time that the platform is being raised or lowered, the tubes can be used to eject a stream of sand or water on the blaze to protect the rescuers and rescued.

Mr. Anania will build a full size truck according to this design and will tour the country with it.

George Marriott Again Heads Force

George C. Marriott has again been appointed head of the fire department of Quincy, Ill. He was a member of the department for thirty years and chief for sixteen years, up to two years ago, when he was retired on a pension because of a political change.

With the election of the new mayor, the present chief has been placed on a pension and Mr. Marriott again named chief.

EARL NOLAN.

Prescott With Buffalo Appliance

J. A. Prescott, for many years Eastern representative for the Ahrens-Fox Fire Engine Company, is now with the Buffalo Fire Appliance Corporation as sales manager in the Metropolitan District. His office will be in the Fisk Building, Broadway and Fifty-seventh streets, New York.

Flintridge, Cal., to Erect Fire House—A $10,000 fire house will be erected in Flintridge, Cal. The house will be under control of the county.

Three 1,000-Gallon Pumpers Delivered to Pittsburgh

Three high pressure pumpers of 1,000-gallon capacity, have been delivered to Pittsburgh, Pa., by the American-LaFrance and Foamite Corporation. The pumpers have been designed for high pressure work in fighting fires in tall buildings. The engine develops 175 horsepower, and the pumps are of the rotary gear type. The apparatus carries foam and soda-acid type fire extinguishers.

The Round Table

(*Continued from page* 450)

Traffic Bureau of the police department has given this problem considerable thought and study, particularly in the congested zones of the city. In this section, the principal streets were widened from thirty to sixty feet. One way streets were created, and where vacant land exists it is used for parking purposes which relieved the congested district considerably.

Taking the situation as a whole, the traffic bureau has been successful in keeping the streets clear so as to prevent fire apparatus from being hindered in responding to alarms of fire.

F. F. Trombley, Chief, Sault Ste. Marie, Mich.: In order to speed up apparatus responding to alarms, the fire department has control of traffic lights and has sirens installed on congested corners. The traffic lights are controlled by a switch in the Central fire station. When the switch is thrown, all traffic lights turn red. The electric sirens work in conjunction with the red lights.

I find we get better results since this system was installed.

Lawrence E. Reif, Chief, New Haven, Conn.: We have very little trouble with traffic congestion here, due to the fact that seven of our principal corners are equipped with six-inch tapper gongs. These gongs are connected to our fire alarm system. This method gives the traffic officer a chance to relieve the situation before the apparatus arrives. The traffic officer also throws all lights on his circuit at caution, until the apparatus has passed.

W. P. Cooper, Chief, Richmond, Calif.: We have an ordinance prohibiting any person following fire apparatus or interfering with the department in any way. Private vehicles are not permitted to park within one block of the location of the fire. We have one hundred per cent cooperation from the police department in enforcing this ordinance.

All apparatus and automobiles are equipped with two red lights and a large siren.

John F. Schroder, Chief, Covington, Ky.: The Mayor and City Commissioners have just signed a contract to install signal traffic lights at twenty-seven intersections. There will be four poles at each intersection, and a warning bell will be placed on each pole. These bells will be sounded until the fire apparatus has passed.

Heretofore we have only had signals at four intersections. We expect this work to be finished in ninety days.

James J. McMillan, Chief, Orange, N. J.: We have a gong in police headquarters which strikes the number of the box coming in. All traffic signals are set at red in the zone through which the fire department will travel. These lights are kept red until the apparatus has passed. When an alarm is received by telephone, the operator at headquarters notifies the police department and motorcycle policemen are sent out to clear the way. We have very little trouble with traffic congestion due to this system.

W. H. Mitchell, Chief, St. Joseph, Mich.: We have our apparatus equipped with the best sirens obtainable. In addition, we use the Roto-Ray which has a more reaching effect and san be seen eight or ten blocks. We find this clears the road better than any other signal.

Clive K. Dall, Chief, Delaware, Ohio: The police turn all traffic lights amber when fire apparatus is responding to an alarm. Motorcycle police help to clear the streets by going ahead of the apparatus. Sirens are constantly sounded and this has helped a great deal. However, no matter how many warnings are given, there always seems to be some persist in following fire apparatus and interfering with the work of the department upon arriving at the fire.

Claude Smith, Acting Chief, Rushville, Ind.: We have a fairly good traffic system when properly enforced. City ordinance prohibits promiscuous parking. All automobiles are required to go to the curb and remain there until the apparatus has passed. Private vehicles are not permitted to park within two hundred and fifty feet of a fire.

We have two automatic sirens which are used to clear the road of traffic.

F. C. Brown, Fairbury, Neb.: At the present time we are not using any particular system of signals. We have been considering the placing of sirens on the busy streets.

We are very particular in seeing that all persons hindering the fire department are arrested and fined. We have very little trouble from this source.

Leslie S. Wiggin, Chief, Franklin, Mass.: We use the King light (red flasher) on all our trucks. I think that some kind of a distinctive light should be used on every fire truck. We also use a system of air and steam whistles.

The police department cooperates with the fire department by relieving the situation at congested points.

D. C. Fahy, Penns Grove, N. J.: Several persons have been arrested for interfering with the firedepartment. This seems to have had the desired effect on those who make a practice of following and passing fire apparatus.

The city is considering passing an ordinance forbidding parking on one side of the street in the congested district as our streets are narrow and parking on both sides interferes with the department.

Frederick Waite, Chief, Bridgewater, Mass.: Very little has been done in Bridgewater to relieve congestion when apparatus responds to alarms. However this year we are going to install sirens on the bad corners. Possibly next year other improvements will be made.

All automobile drivers in Massachusetts are supposed to draw to the right side of the road and stop when fire apparatus is approaching.

Arthur J. Baker, Lewistown, Mont.: While I am unable to offer a solution to the problem of traffic congestion, we do use the following methods, to relieve this situation:

Whenever possible we avoid congested streets when responding to alarms. Sirens and bells are continually sounded and the apparatus is kept under control at all times.

A. L. Ducket, Chief, Asheville, N. C.: The cooperation of the police department and the city officials is enlisted to relieve this situation. Traffic problems should be discussed along with fire prevention talks given before civic clubs. The press can aid a great deal by keeping this problem before the public.

Napoleon Belfy, Chief, Muskegon, Mich.: Our apparatus is equipped with exhaust whistles and sirens. Red and green lights are used for night driving. The headlights of the apparatus are dipped in light red dye which adds a mark of distinction.

While there is no specific ordinance, fire apparatus has the right of way over all vehicles.

Will Boyer, Capt., Ironton, Minn.: While we have a city ordinance, it is a difficult matter to make people live up to it. We simply have to proceed with caution in responding to fires. Up to the present time we have not had an accident in Ironton.

C. Edward Willert, Chief, Mt. Clemens, Mich.: We have sirens located on corners and traffic officers are stationed on cross streets. Parking is only allowed on one side of the street along the main fire department routes.

R. H. Bowker, Chief, Passaic, N. J.: We have several street gongs and "go and stop" signs operated by the police officers on the corners where traffic is heaviest.

J. L. Akin, Chief, Birmingham, Ala.: We have traffic signal lights controlled from the fire department headquarters. We have the full cooperation of the traffic officers in clearing traffic along the route the apparatus is to travel.

F. W. Kuhn, Chief, Pontiac, Mich.: Traffic lights in the business and congested districts are controlled by the fire alarm operator. All lights are thrown red by him when the apparatus leaves the station.

D. W. Flynn, Chief, Great Barrington, Mass.: Cooperation between the police department and the fire department has been the means of keeping the roads clear for fire apparatus responding to alarms.

Reginald Bates, Chief, Clinton, Mass.: We work in cooperation with the police department. They help clear the roads to speed up the apparatus. We also have a law here which requires vehicles to pull up to the side of the highway and stop upon hearing the alarm.

Notices are run in the daily paper ever so often to remind the public that time saves money.

E. F. Henryson, Chief, Elgin, Ill.: At the time the alarm is received at the fire alarm office, the operator throws the switch which turns all "stop and go" lights red. By this method the congested district is cleared by the time the apparatus arrives.

T. B. Parks, Chief, Hannibal, Mo.: We have three sirens placed on the corners where traffic is the most con-

gested. With these three sirens and also the traffic officers, we have very little trouble.

J. T. Cranney, Chief, Missoula, Mont.: We use traffic sirens on some of the bad streets. This method has worked out very satisfactory.

H. J. Mjelde, Chief, Livingston, Mont.: When the siren blows all traffic must pull into the curb at the right and remain there until the fire apparatus has passed.

Answer to Previous Question

Martin Juhl, Chief, Helena, Mont.: In order to prevent incendiary fires, we find the most effective way is to make a thorough investigation of all fires. We do this through our fire and police departments. If we find sufficient evidence that satisfies us that the fire is of an incendiary nature, we ask our insurance commissioner to assist us by sending the state fire marshal to make a thorough investigation. We find that when he gets through with his investigation the desired results are obtained. We have no repeaters, and as a matter of fact, very few fires of this nature. This method has proven very satisfactory in Helena.

Cause of Fatal Hospital Explosion

(*Continued from page* 446)

stated, for it depends to a great extent upon the particular film being employed. If the ignition point is understood to be that temperature at which celluloid gases will burst into flames instantly, it may be stated to vary between 325° F. and 650° F.

As to the speed of combustion of celluloid once it takes fire, the following figures may be cited: 1,900 pounds of celluloid film in a test vault burned in three minutes, 32,000 pounds of celluloid in a storage building burned in sixteen minutes.

Combustion of celluloid film is attended by rapid evolution of explosive and inflammable gases, which may be projected as a "blow-torch" flame for great distances, or may, if confined, built up considerable pressures. According to temperature of decomposition, 1,000 pounds of celluloid will form from 3,000 to 8,500 cubic feet of gas. Blast of flame from the 1,900 pounds of burning film in test vault was 70 feet long and pieces of the film 1 to 6 feet in length were projected 120 feet.

With reference to extinguishing celluloid fires, water will extinguish these fires by cooling the material below decomposition temperature. The water has an additional advantage in absorbing a considerable percentage of the poisonous gases created. Water must be applied in sufficient quantity to accomplish this purpose rapidly, due to the tremendous rate at which heat is generated by burning celluloid. Streams of such size and capacity as are commonly used on other fires of similar size do not prove effective on celluloid fires because of the great rate of heat generation and speed of combustion.

Possibly the best protection for film vaults in hospitals are automatic sprinklers, spaced sufficiently close together to thoroughly drench any fire which may start. As noted above, the water discharged will absorb the poisonous gases as well as hold the fire, if not extinguish it.

In operating at these fires the department officers must bear in mind that thorough ventilation is absolutely essential for the safety of the men. Fumes given off by burning or decomposing celluloid, being so much more concentrated than fumes commonly thrown off by nitric acid at fires, require even better ventilation than is commonly given at nitric acid fires at the present time.

The results of exposure of men to celluloid fumes is very much the same as exposure to nitric acid fumes, which so often result fatally.

Program for South Dakota Meeting

A tentative program has been arranged for the convention of the state fire chiefs at Hot Springs, S. D. This year the chiefs' convention and the Firemen's Tournament have combined in order that the schooling for chiefs may be extended to firemen. Lectures and instruction classes will be held in the morning and races and contests are arranged for the afternoon. It is believed that this arrangement will draw the largest possible attendance.

Hon. W. J. Bulow, Governor, is scheduled to give a talk on fire waste and fire reduction on the opening day. For the second morning there will be talks by D. C. Lewis, state fire marshal; W. A. Sloan, head of Sioux Falls fire department, and J. B. Mayo, chief of Lead City Fire Department. Speakers for the Thursday session are Chief Lockhart, Minneapolis; M. B. Orfald, representative of Mines & Smelter Safety Appliance Co.; E. C. Giffen, state superintendent of schools. For the closing session, Harry K. Rogers will speak on first aid and drills, and F. L. Perry, industrial commissioner will talk on compensation for firemen and injuries covered.

A number of prize contests including races and ladder climbing, have been arranged.

A Chaotic Condition Was Created on the Grounds About the Cleveland Clinic Hospital

Ambulances were held in readiness to care for those who required immediate medical attention in other city medical centers. First aid treatment was given to persons as soon as they were removed from the clinic. Large crowds were held back by the squads of policemen. Bodies were placed on the lawns before they were removed to the morgue.

Ball Playing Is Fireman's Duty

In deciding on a claim for damages from a broken leg, the Alameda County Superior Court in California ruled that playing baseball in front of a fire house when there are no fires to fight, was part of a fireman's duties.

A fireman was playing baseball at the fire house in July, 1926, and while playing fell and broke his leg. He was incapacitated until November 28 and subsequently sued the city of Oakland for expenses and pay during the time he was laid up. The fireman claimed that he was playing on the grounds under orders from his captain. On the witness stand the captain stated that he found it advisable to order his men to play ball in order to keep physically fit. The court granted a claim of $770 against the city.

Firemen Offer Services to the City

When a crisis occurred in city affairs in Sebring, Fla., the fire department volunteered to aid in any way possible, individually or as a group. With the closing of the First National Bank of Sebring, practically all of the city's funds were made unavailable for use.

The fire department adopted resolutions that the men stand ready to render every possible aid in this emergency for any type duty that is required by the city.

Phosphorus Starts Fire in Laboratory

A small blaze which was most difficult to reach because of poisonous fumes was discovered in the laboratory of Quincy College, conducted in Quincy, Ill., by Franciscan fathers.

The fire was discovered by a student who observed a reflection in the laboratory. He notified the rector, who, upon investiation found the room filled with poisonous fumes. The Reverend closed the door to prevent the fumes from filling the corridor and notified the fire department. The first company that responded did not have gas masks, but other units did. The blaze was extinguished before much damage was done.

The college president told Chief Marriott that the fumes resulting from the burning of phosphorus was not dangerous unless inhaled in considerable quantities.

EARL NOLAN.

Losses in Philadelphia Increase

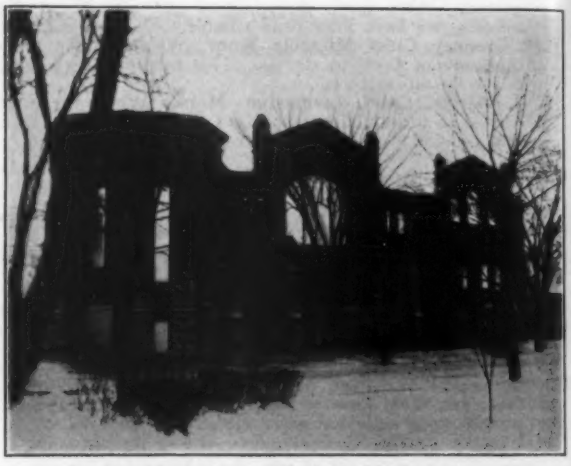
Fire losses in Philadelphia, Pa., increased $1,395,364 in 1928 over the total of $3,960,010 for the previous year. A large part of this increase is attributed to a four-alarm and one six-alarm blaze—the first in the Publicker Commercial Alcohol Company and the other in a furniture warehouse of Stern & Co.

According to fire department records nearly $60,000,000 worth of property has been destroyed during the past ten years. Records also show that but sixty-nine fires spread to other buildings and floors than those in which the blaze was discovered.

Chief Ross B. Davis attributes a large part of the good work to the efficiency of the Fire Prevention Bureau in charge of Captain Jacob Clinton. The bureau was organized sixteen years ago as a section of the fire marshal's office. During the past year, men of this division inspected 24,229 buildings and ordered 37,923 improvements.

Pumper Delivered to Cedarburg, Wis.

A pumper built by Peter Pirsch & Sons of Kenosha, Wis., has been delivered to Cedarburg, Wis. It is equipped with portable extinguishers and other appliances.



Gary Memorial Church Destroyed at Wheaton, Ill.

Fire swept through the Gary Memorial Methodist Episcopal Church at Wheaton, Ill., that was erected by the late Elbert H. Gary to the memory of his father and mother. It is believed that the fire started either from an overheated furnace or from defective wiring. Only the stone walls were left standing, and the damage has been estimated at $250,000.

Architect Addresses Fire Chiefs

George Ernest Robinson, architect, of Boston, was the speaker at the April meeting of the Fire Chiefs' Club of Massachusetts at the Parker House in Boston. His subject was "The Design and Construction of Modern Firehouses." The talk was illustrated with lantern slide views of many different styles of fire department architecture.

Chief Selden R. Allen, of Brookline, president of the club, was in charge of arrangements and there was a large attendance at the meeting which was preceeded by the customary luncheon.

John Campbell, superintendent of special service for the Edison Electric Illuminating Company, was elected an honorary member of the club.

HARRY BELKNAP.

Lumber and Lumber Yards

(*Continued from page 468*)

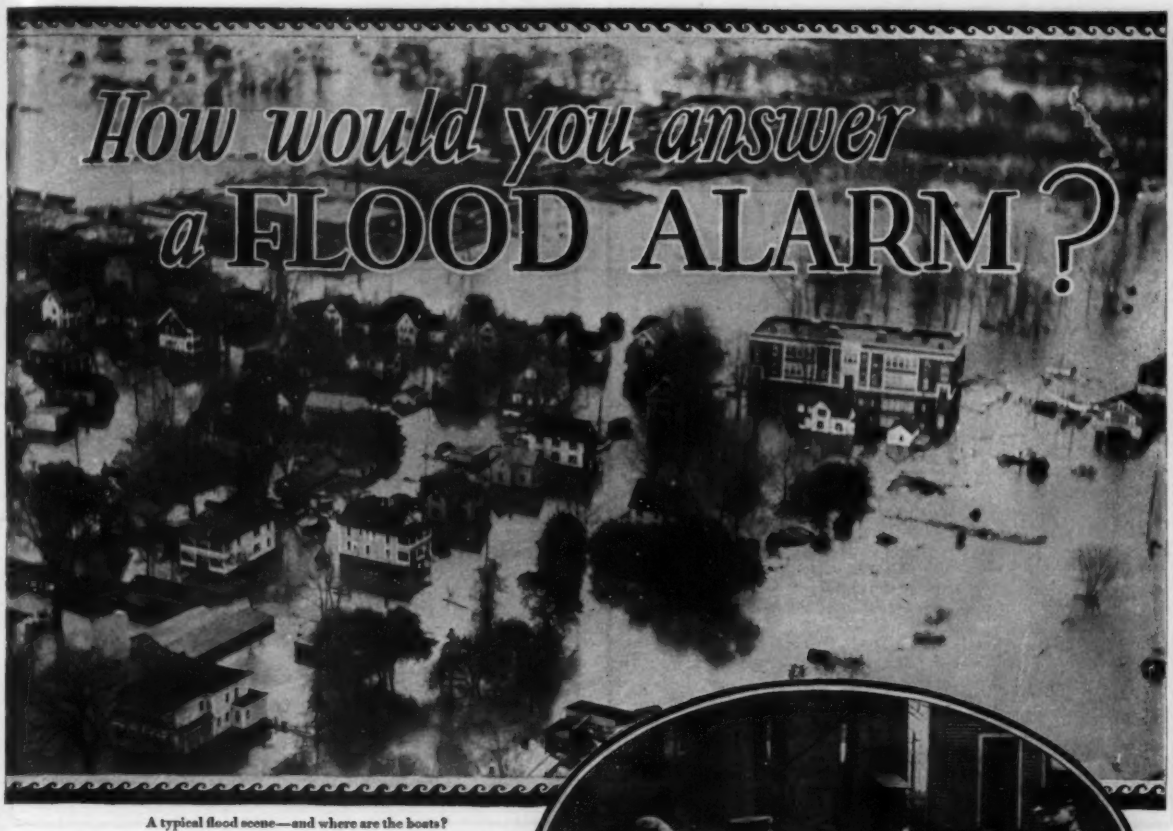
at hand, work can be very effectively done by firemen.

The pump tank extinguisher is, however, more effective than the soda and acid extinguisher for this purpose, due to the fact that only as much of the liquid need be used as is necessary. With the soda and acid extinguisher, once it is inverted, the discharge will be complete. Bear in mind this point: to successfully handle a fast burning lumber yard fire requires the members of the department to take a lot of punishment. This is particularly so when a stop is to be made against a heavy wind blowing. Men operating on the lee side, as long as their channels of escape are not cut off, can protect themselves by sprays from streams which they are operating. Even if all of the water discharged from streams on the lee side does not reach the fire, it does prove effective in killing embers before they land, and in wetting down piles of lumber in the immediate path of the fire.

Ex-Chief of Antigo, Wis., Dead—Ferdinand Ebert, sixty-eight years old, a former fire chief of Antigo, Wis., died suddenly at his home following a stroke of apoplexy. Last winter he had a foot amputated to avoid complications resulting from hardening of the arteries.

Los Angeles Wants Change in Working Hours—Firemen in Los Angeles, Cal., are working to have the hours changed so that they will have twenty-four hours on duty and twenty-four hours off. At present the men serve ten hours a day one week, and fourteen hours a day the next. Chief Ralph J. Scott has recommended that the matter be submitted to the voters in June.

How would you answer a FLOOD ALARM?



A typical flood scene—and where are the boats?

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Detailed description of the proper procedure in fighting fires: 1. Size-up; 2. Calling of help; 3. Saving of life; 4. Covering exposures; 5. Extinguishing fire; 6. Overhauling. How to test motor fire apparatus. How the following types of fires should be fought: Large department stores, large hotels and rooming houses, large area residential fires, combination stores and apartments, motion picture film exchanges, tall office buildings, wholesale grocery stores and warehouses, group building fires, theatres, schools, factories, etc., and considerable other data.

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NEW STANDPIPE RULES ADOPTED FOR THE CITY OF NEW YORK

Board of Standards and Appeals Formulates New Regulations—To Be Published in Their Entirety in These Columns

HEREWITH is continued from the May 1 issue the new "Standpipe-Fire Line Rules" of New York City. The original rules were adopted by the Board of Standards and Appeals of that city on June 22, 1922, were amended July 20, 1923, and again on May 18, 1928. The finally adopted form as reproduced herewith, was adopted July 20, 1928. Through the courtesy of Chairman William E. Walsh, of the Board, FIRE ENGINEERING *is enabled to publish the entire new rules serially.*

These new rules or formulated largely through the efforts of Peter J. Maher, Fire Preventive Inspector attached to the Division of Fire Appliances of the New York Fire Department.

RULE 85. PLACES COVERING LARGE AREAS.—Ship yards, oil storage plants, amusement or exhibition parks or other enclosures when deemed necessary by the Fire Commissioner shall have one yard hydrant and hose for each 20,000 sq. ft. of area, but in no case shall there be more than 250 ft. distance between hydrants. Hydrants and sufficient approved hose and a smooth bore 1⅛-inch Underwriters playpipe shall be placed in an approved hose house, painted red, with words "FIRE HOSE" in 6-inch white letters on door. Where the area exceeds 20,000 sq. ft. and not exceeding 40,000 sq. ft. in area, a gravity tank of at least 20,000 gallons capacity, elevated 50 ft. above the yard, or 25 ft. above the highest structure in the yard, or a fire pump of at least 1,000 gallons a minute capacity, with a suction tank of at least 25,000 gallons capacity, or river suction supply shall be provided. Plants exceeding 40,000 sq. ft. in area shall be provided with a fire pump of not less than 1,000 gallons per minute capacity, suctioning from a tank or sump of at least 30,000 gallons capacity. The Fire Commissioner may permit suction from a river or well if in his opinion the required quantity of reasonably clean water may be obtained thereby, except that where river suction is proposed and standpipe primary water supply is taken from street main, approval of the proposition shall be obtained also from the Department of Water Supply, Gas and Electricity. In addition to yard hydrants, the Fire Commissioner may require one Monitor nozzle with remote control for each 40,000 sq. ft. of area or fraction thereof when in his opinion an unusual hazard exists or may exist. Monitor nozzles shall be located as ordered by the Fire Commissioner.

Standpipe risers may be connected to yard hydrant systems when such systems are provided with gravity tanks in accordance with this rule, or when same conforms with Rule 9, Subdivision A (city main connection).

Yard hydrant systems connected to city main shall be provided with Post Indicator valve located in an accessible position. The Post Indicator valve shall be sealed or locked open and be painted a Fire Department red.

Yard hydrant systems with more than one hydrant shall not be connected to City mains outside of the high pressure fire service area, unless approved by the Board of Standards and Appeals.

Provision for steamer connections, fireboat connections, pressure reliefs and general layout of plant standpipe systems shall be made by the Fire Commissioner as his judgment may dictate for each individual case.

Fire extinguishing equipments in addition to the foregoing shall be prescribed by the Fire Commissioner for all oil storage plants, oil refineries, fire work plants and other plants when deemed by the Fire Commissioner as presenting unusual fire hazards.

RULE 86. THEATRES, ETC.—In every theatre or opera house or other building used for theatrical or operatic purposes or amusement purposes as per Section 520, Chapter 5, of the Code of Ordinances, the standpipe fire line equipments in addition to the tank shall also be supplied by approved electric pump or pumps having a capacity of at least 250 gals. per minute at 100 lbs. per square inch in buildings without occupancy above the roof and at 125 lbs. per square inch pressure in buildings having any occupancy above the auditorium roof. Power for pumps shall be supplied by electric motors of sufficient horsepower to drive pump without sign of overload. Pumps shall be by-passed to suction tanks, as provided for elsewhere in these rules under FIRE PUMPS. Pumps shall suction from steel or reinforced concrete tanks of not less than 5,000 gallons water capacity. Pumps shall deliver initial supply of water and shall be connected to an approved electric device which, upon a reduction of pressure below the allowable minimum, will automatically start the pump and, upon a restoration of the required pressure, will automatically shut off the pump. The automatic starting device shall be set to cut in at 60 lbs. pressure and to cut out at 80 lbs. pressure. In addition to the automatic starting device there shall be provided a hand starter for emergency use and there shall also be provided a pressure gauge on the panel board.

(To be continued)

New Soda-Acid Extinguisher Introduced

A new model two and one-half gallons fire extinguisher of the soda-acid type, termed the Rough Rider, has just been announced by the American-La-France and Foamite Corporation.

The "Rough Rider"

It is designed to be splash-proof. The glass acid bottle is of the double-neck type so as to prevent the acid from coming out of the bottle until the extinguisher is tipped to an agle of over forty-five degrees. This bottle is also provided with a heavy cup-shaped lead stopple which fits snugly over the top of the bottle and can not be easily jolted off. As a further safeguard the discharge pipe on the inside of the extinguisher runs in a half circle around the extinguisher shell.

The extinguisher is provided with heavy leather carrying straps so arranged as to enable a fireman to cary it over the shoulder and yet allow the free use of the hands for climbing ladders, and so forth. To operate, the device is merely inverted and the stream controlled with the nozzle which is of the shut-off type. There are no valves to open or no glass bottle to break.

Cities Liable for Apparatus Crashes

According to a bill that has just been approved by Governor Roosevelt of New York, cities in the state will be liable for damages resulting in the operation of motor vehicles by city employees.

The bill is identical with that which was passed by the legislature a year ago and vetoed by Governor Smith after a hearing on the measure. The bill passed both Houses without opposition. It adds a new section to the Highway Law, making municipalities liable for negligent operation of vehicles owned by them, where the person appointed to operate was acting in the discharge of duties and within the scope of his employment. The bill was approved by the State Police Conference and the fire fighters of the state. Frank Emden, secretary of the State Permanent Firemen's Association, was one of its most active boosters.

Relief from the liability for civil damages as the result of accidents has long been sought by the policemen and firemen. It was contended by the uniformed forces that the conditions under which they operated motor vehicles of the police and fire departments were unfair to themselves and to the public. It was stated at the hearing held by Governor Smith a year ago that on one occasion a fireman was ordered to take out a fire truck which had been declared defective and was awaiting the repair shop officials. As a result a child was killed. The father brought action against the city, but it was held by the court that the fireman alone was responsible. When suit was begun the fireman appealed to the U. F. A. and a test case was ordered. The fireman subsequently retired and then went through bankruptcy proceedings.

There have been similar cases in both departments for many years. Since the two departments have been placed on a motor basis the liability for accidents and damage suits have increased to an extent that the operators have been in constant fear of results. The city for a time maintained a fund out of which small amounts in damages could be paid. The fact that the city defended each action did not prevent the collection of damages from the individual policeman or fireman.

"The firemen are particularly pleased over the enactment of the new law," said Lawrence A. Gorman, president of the Uniformed Firemen's Association. "It was unfair to place on their shoulders the responsibility for results when they are required to obey orders on the way to and returning from fires."

Elkhart, Ind., Buys Pumper—Elkhart, Ind., has purchased a new 1,000-gallon Seagrave pumper.

PROPOSED IMPROVEMENTS

Atlanta, Fulton Co., Ga.—Purchase of 7,000 feet of fire hose was voted recently at regular semi monthly meeting of the purchasing committee of the city council, according to reports.

Passaic, Passaic Co., N. J.—Reports state City Council adopted a resolution to provide a new piece of apparatus for Fire Company No. 1, at cost of $11,500.

Mattituck, Suffolk, Co., N. Y.—New fire station is to be erected here. Charles Reeve, Chief.

Chickasha, Grady Co., Okla.—Reports state city to erect new fire station. C. A. Chincholl, City Clerk.

Lewiston, Mifflin Co., Penn.—New fire alarm system to be installed shortly, according to reports.

Delphos, Allen Co., Ohio—City Council adopted ordinance appropriating $13,000 for purchase of 750 to 1000 gal. pumper for fire department. Bids to be called for at once. Thomas Williams, Mayor.

Tomahawk, Lincoln Co., Wis.—Board of Public Works, taking bids for furnishing pumper for fire department, according to reports. Emma H. Fuller, City Clerk.

Garland, Dallas Co., Tex.—Council considering purchase of a pumper for volunteer fire department.

Position Wanted

Former Ass't fire chief, mechanic and fire alarm man wants position in southern state; address Experience, 210 DeKalb St., W. Philadelphia, Pa.

Wanted

District Representatives for an old established and complete line of apparatus and equipment. Exclusive territories and satisfactory arrangements to competent men. Address Box 165, c/o Fire Engineering, 225 W. 34th St., New York.
5-1, 15, 29

CONVENTION DATES

May 27-30—OKLAHOMA STATE FIREMEN'S ASSOCIATION— 35th Annual Convention and State Firemen's Training School, Muskogee, Okla. Director of School, Chief J. E. Taplin, Blackwell, Okla. Secretary, Charles Slemp, 820 East 19th Street, Oklahoma City.

June 3-6—KANSAS STATE FIRE CHIEFS' AND FIREMEN'S ASSOCIATIONS, WOMAN'S AUXILIARY and FIRE SCHOOL. Respectively 14th, 43rd, 4th and 1st conventions and meetings, Newton, Kansas. Secretary for both Associations, Chief K. D. Doyle, Wamego.

June 5-6—IOWA ASSOCIATION OF FIRE FIGHTERS. 7th Annual Convention, Hotel President, Waterloo, Ia.

June 5-7—OREGON STATE FIRE CHIEFS' ASSOCIATION. 10th Annual Convention, Tillamook, Ore. Secretary, Thomas Coates, Tillamook.

June 7-8—DAUPHIN COUNTY FIREMEN'S ASSOCIATION. 11th Annual Convention, Harrisburg, Pa. Chairman Local Committee, W. L. Jauss.

June 10-12—SOUTH CAROLINA STATE FIREMEN'S ASSOCIATION. 24th Annual Convention, Columbia, S. C. Secretary, R. S. Hood, Sumter, S. C.

June 11-13—FIRE CHIEFS' ASSOCIATION OF OHIO. (Change of date.) 12th Annual Convention, Assembly an Exhibit Rooms, Dodge and Smith Motor Sales Company Building, Sandusky, Ohio. Secretary-Treasurer, Chief Philip J. Harty, Fire Dept., Youngstown Sheet & Tube Company, Ohio.

June 11-13—SOUTHERN NEW YORK FIREMEN'S ASSOCIATION. 34th Annual Convention, and Tournament, Lindenhurst, N Y.. Secretary, August Kalb, Rockville Center, N. Y. Theodore W. Nass, Lindenhurst, N. Y.

June 11-15—TEXAS STATE FIREMEN'S ASSOCIATION. Annual Convention, Galveston, Tex. Secretary, Olin Culbertson, Hillsboro, Tex.

June 12-13—NORTHERN INDIANA INDUSTRIAL AND VOLUNTEER FIREMEN'S ASSOCIATION. 24th Annual Convention, Bremen, Ind. Secretary-Treasurer, Hugh Russell, Bluffton, Ind.

June 12-14—MARYLAND STATE FIREMEN'S ASSOCIATION. 37th Annual Convention, Lonaconing, Md. Secretary, George R. Lindsay, Hagerstown, Md.

June 14-15—DELAWARE COUNTY FIREMEN'S ASSOCIATION. 23rd Annual Convention and Parade, Clifton Heights, Pa. Secretary, William E. Wunderlich, Lansdowne, Pa.

June 15—LEBANON COUNTY FIREMEN'S ASSOCIATION. Annual Convention, Myerstown, Pa. Secretary, William I. Kutz, Box 233, Myerstown, Pa.

June 18-20—HUDSON VALLEY VOLUNTEER FIREMEN'S ASSOCIATION. 40th Annual Convention, Hendrick Hudson Hotel, Troy, N. Y. Secretary, Chief Chris. W. Noll, Fire Department, Poughkeepsie, N. Y.

June 18-20—NEW YORK STATE ASSOCIATION OF FIRE CHIEFS. 23rd Annual Convention, Binghamton, N. Y. Secretary, Chief James H. Golden, Fire Department, Cohoes, N. Y.

June 18-20—NORTH DAKOTA FIREMEN'S ASSOCIATION. 45th Annual Convention, Bismarck, N. Dak. Secretary, H. L. Reade, Bismarck.

June 19—NORTHWESTERN OHIO VOLUNTEER FIREMEN'S ASSOCIATION. 56th Annual Convention, Ashland, Ohio. Secretary, C. R. Bowersox, 430 Richardson Bldg., Toledo, Ohio.

June 20-22—WASHINGTON STATE FIREMEN'S ASSOCIATION. 7th Annual Convention, Everett, Wash. Secretary, H. G. Jenkins, City Electrician, Fire Headquarters, Bellingham, Wash.

June 21-July 7—INTERNATIONAL EXHIBITION OF FIRE APPARATUS AND CONGRESS OF WORLD FIRE PREVENTIONISTS. Under the patronage of the President of the French Republic, at the Grand Palais, Paris; 44th Annual Congress of the French Federation, Paris. General Secretary, Commandant G. Wattremez, Grand Palais, Avenue Alexandre III, Paris.

June 22-23—SOUTHERN CALIFORNIA FIRE CHIEFS' CLUB. 2nd Annual Convention, Ventura, Cal. Secretary-Treasurer, G. E. Zimmerman, Fire Department, Coronado, Cal.

June 24-28—AMERICAN WATER WORKS ASSOCIATION. 49th Convention, Hotel Royal York, Toronto, Ont., Can. Secretary, Beekman C. Little, Rochester, N. Y. Office of Association, 29 West 39th Street, New York City.

June 25-27—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. 7th Annual Convention, Hotel Taft, New Haven, Conn. Exhibits, Second Regiment Armory. Secretary-Treasurer, Chief John W. O'Hearn, Watertown, Mass.; Chairman, Exhibits, Chief John S. Pachl, Annex Fire Department, New Haven; Traffic Manager, Geo. F. Cobb, Boston.

June 25-28—ANNUAL FIREMEN'S SHORT COURSE. 5th Annual Short course for Firemen, University of Illinois, Champaign-Urbana, Ill. Address Asst. Chief Roy W. Alsip, Secretary, Illinois Fireman's Association, Fire Department, Champaign.

June 25-28—SOUTH DAKOTA FIREMEN'S ASSOCIATION. 13th Annual Convention, and Tournament, Hot Springs, S. Dak. Secretary, M. C. Sullivan, Parkston, S. Dak.

July 3-4—WYOMING STATE FIREMEN'S ASSOCIATION. 3rd Annual Convention, and Tournament, Laramie, Wyo. Secretary, Chief Justin H. Patrick, Laramie, Wyo.

July 9-11—MICHIGAN STATE FIREMEN'S ASSOCIATION. 55th Annual Convention, Sault Ste. Marie, Mich. Secretary, H. L. William, Ludington, Mich.

July 9-12—DOMINION ASSOCIATION OF FIRE CHIEFS. 21st Annual Convention, Coburg, Ont. Secretary, Chief James Armstrong, Kingston, Ont.

July 10-11—DELAWARE VOLUNTEER FIREMEN'S ASSOCIATION. 9th Annual Convention, Wilmington, Del. Secretary, Sam H. Carson, Dover, Del.

July 11-12—EASTERN ASSOCIATION OF FIRE CHIEFS. (Change of date.) 2nd Annual Convention, Hotel Pennsylvania, New York City. Secretary, T. Howell Johnson, Room 602, Chamber of Commerce Bldg., Newark, N. J.

July 15-16—MONTANA STATE FIREMEN'S ASSOCIATION. 38th Annual Convention, Butte, Mont. Secretary-Treasurer, D. E. Moser, Bozeman, Mont.

July 15-19—NORTH CAROLINA STATE FIREMEN'S ASSOCIATION. Annual Convention, Hendersonville, N. C. Secretary, John L. Miller, Concord, N. C.

July 15-20—MARITIME FIRE CHIEFS' CONVENTION AND TOURNAMENT. 14th Annual Convention, Moncton, N. B. Secretary, Captain K. J. McCrea, St. John, N. B., Can.

July 17-19—INDIANA FIREMEN'S ASSOCIATION. 12th Annual Convention, Gary, Ind. Secretary, Clem Smith, Fire Headquarters, Terre Haute, Ind.

July 23-26—PACIFIC COAST ASSOCIATION OF FIRE CHIEFS. 36th Annual Convention, Vancouver Hotel, Vancouver, B. C. Secretary, Jay W. Stevens, 113 Merchants Exchange Bldg., San Francisco, Cal.

August—IDAHO FIREMEN'S CONVENTION. Tentative, August or September, Idaho Falls, Ida. Secretary-Treasurer, Earl Heath, Idaho Falls.

August—MAINE STATE FIREMEN'S ASSOCIATION. 2nd Annual Convention (tentative, exact time to be announced later), Waterville, Me. Secretary, Earl E. Pratt, Fire Department, Auburn, Me.

August—UTAH STATE FIREMEN'S ASSOCIATION. 22nd Annual Convention (tentative, to be decided later), Tooele City, Utah, Secretary, Harris E. Anderson, Fire Headquarters, Salt Lake City, Utah.

Aug. 7-9—CALIFORNIA STATE FIREMEN'S ASSOCIATION. 7th Annual Convention, Fullerton, Cal. Secretary-Treasurer, H. E. Strasser, 1171 Tenth St., San Diego, Cal.

Aug. 7-9—SOUTHWESTERN ASSOCIATION OF VOLUNTEER FIREMEN OF NEW YORK. Annual convention, Falconer, N. Y. Secretary, Royce Alden, Falconer, N. Y.

Aug. 16-17—CONNECTICUT STATE FIREMEN'S ASSOCIATION. 46th Annual Convention, Plaza Theatre, East Hartford, Conn. Secretary D. W. Hartford, South Norwalk.

Aug. 20-23—FIREMEN'S ASSOCIATION STATE OF NEW YORK. 57th Annual Convention, Saranac Lake, N. Y. Secretary, Fred A. Davis, Fort Edward, N. Y.

Aug. 26-28—NEW MEXICO STATE FIREMEN'S ASSOCIATION. 7th Annual Convention, Gallup, N. M. Secretary-Treasurer, Theodore A. Rosenwald, Albuquerque, N. M.

Aug. 28-30—VIRGINIA STATE FIREMEN'S ASSOCIATION. 43rd Annual Convention, Lexington, Va. Secretary, E. K. Landis, Pulaski, Va.

Sept. 3-5—KENTUCKY STATE FIREMEN'S ASSOCIATION. 1st Annual Convention, Ashland, Ky. Secretary, Captain S. G. Render, 303 Speed Bldg., Louisville, Ky.

Sept. 9-11—ARKANSAS STATE FIREMEN'S ASSOCIATION. 8th Annual Convention, Camden, Ark. Secretary-Treasurer, H. D. Compton, Central Fire Station, Little Rock, Ark.

Sept. 10-12—ILLINOIS FIREMEN'S ASSOCIATION. 42nd Annual Convention, Joliet, Ill. Secretary, Assistant Chief Roy W. Alsip, Fire Department, Champaign, Ill.

Sept. 17-18—IOWA STATE FIREMEN'S ASSOCIATION. 52nd Annual Convention, Red Oak, Ia. Secretary, E. E. Parsons, Marion, Ia.

Sept. 18-19—MISSOURI ASSOCIATION OF FIRE FIGHTERS (Consolidated with former Missouri State Association of Fire Chiefs). Annual Convention, Jefferson City, Mo. Secretary, M. J. Mulvoy, 3500 S. Grand Boulevard, St. Louis, Mo.

Sept. 19-22—LOUISIANA STATE FIREMEN'S ASSOCIATION. 24th Annual Convention, Jennings, La. Secretary, Chief A. J. Bethancourt, Houma, La.

Sept. 20-21—NEW JERSEY STATE FIREMEN'S ASSOCIATION. 52nd Annual Convention, Atlantic City, N. J. (Tentative date, to be definitely set later by Executive Committee). Secretary, William Exall, Room 602, Chamber of Commerce Bldg., Newark, N. J.

Oct. 1-3—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA. 50th Annual Convention, Hotel Roosevelt Pittsburgh, Pa. Secretary, Charles E. Clark, P. O. Box 217, Wayne, Pa.

Oct. 15-17—RAILWAY FIRE PROTECTION ASSOCIATION. Annual Meeting, Toronto, Can., Secretary-Treasur, R. R. Hackett, Baltimore & Ohio Railroad, Baltimore, Md.

Oct. 22-25—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 57th Annual Convention, Hotel Tutweiler, Birmingham, Ala. Exhibits City Auditorium. Recording Secretary, Chief James J. Mulcahey, Yonkers, N. Y.; Executive Secretary, Jay W. Stevens, 113 Merchants Exchange Bldg., San Francisco, Cal.; Chairman, Exhibit Committee, Chief Selden R. Allen, Brookline, Mass.

North Dakota Firemen Will Meet in Bismarck—The forty-fifth annual convention of the North Dakota State Firemen's Association will be held in Bismarck, June 18-20.

B&M FORD SIREN

MADE TO FIT THE NEW MODEL FORD

PRICE 65.00

COMPLETE WITH DRIVE PULLEY FAN AND BRACKET

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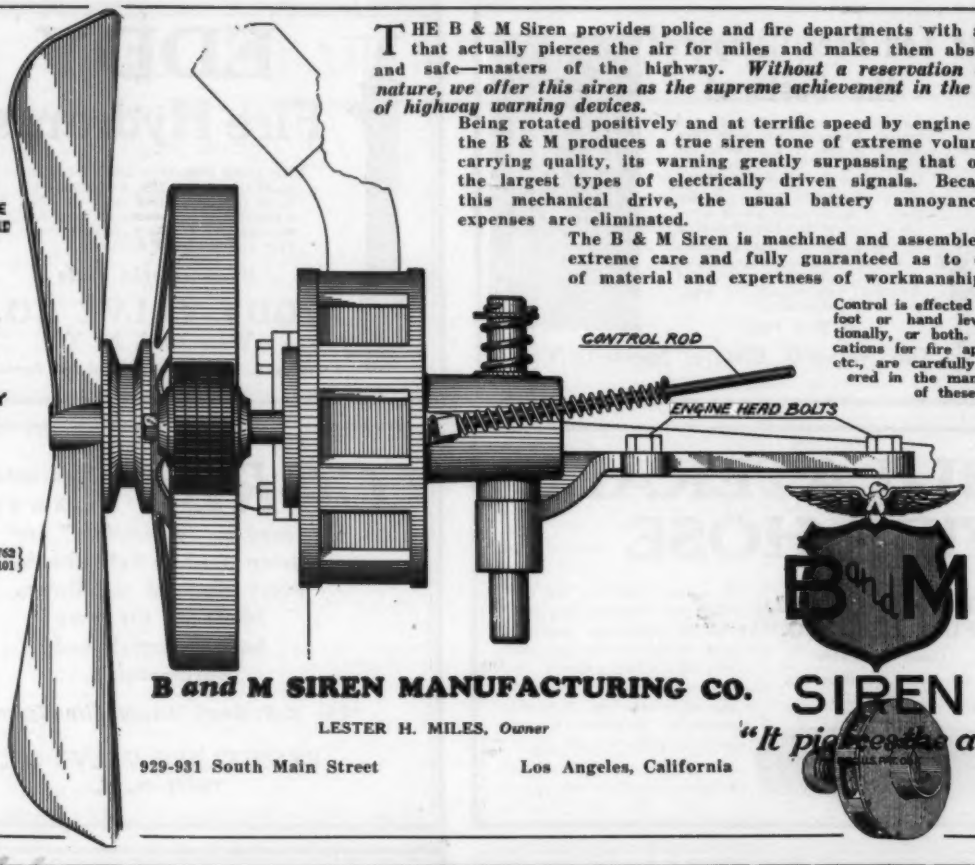
Others Pending

THE B & M Siren provides police and fire departments with a voice that actually pierces the air for miles and makes them absolute—and safe—masters of the highway. *Without a reservation of any nature, we offer this siren as the supreme achievement in the design of highway warning devices.*

Being rotated positively and at terrific speed by engine power, the B & M produces a true siren tone of extreme volume and carrying quality, its warning greatly surpassing that of even the largest types of electrically driven signals. Because of this mechanical drive, the usual battery annoyance and expenses are eliminated.

The B & M Siren is machined and assembled with extreme care and fully guaranteed as to quality of material and expertness of workmanship.

Control is effected through foot or hand levers optionally, or both. Specifications for fire apparatus, etc., are carefully considered in the manufacture of these signals.



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LESTER H. MILES, *Owner*

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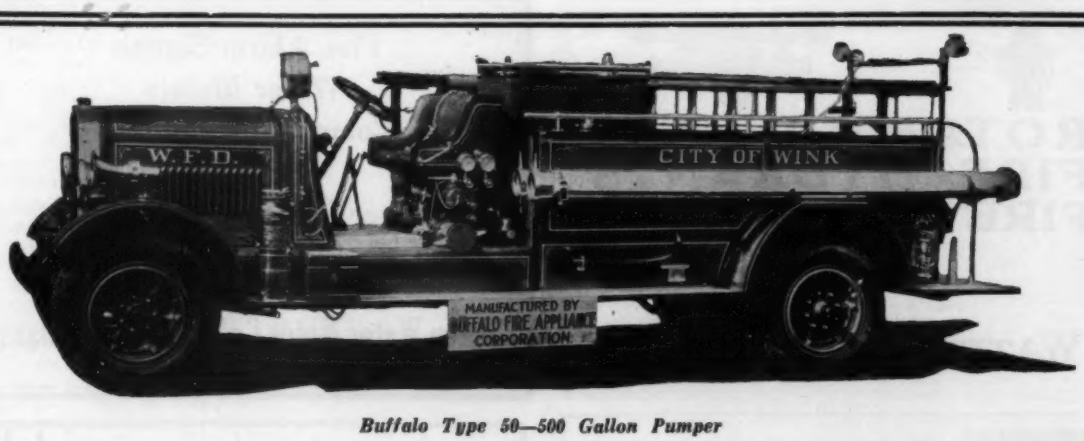
SIREN

"It pierces the air"



Buffalo Type 50—500 Gallon Pumper

Buffalo Pumpers are the most highly developed in design, construction and engineering standards and are intended for municipality, community and township fire protection.

Buffalo Pumpers are also noted for their efficiency and their great abundance of reserve power. They are pumpers with stamina and speed. All the above have to be credited for bringing great pumping merits for Buffalo Pumpers.

Buffalo Pumpers are given great and careful attention when under construction at our factory by engineers, both mechanical and designing, who have been in contact with the construction of pumpers for years.

Buffalo Pumpers range from 300 gallon capacity to 1000 gallon capacity.

IF YOU WANT SOMETHING BETTER BUY *"BUFFALO"*

Write for detailed specifications

BUFFALO FIRE APPLIANCE CORP.

44 CENTRAL AVENUE BUFFALO, N. Y.

Manufacturers of all types of Fire Apparatus

Have You Ever Compared the Costs of

lightning, sneak current and static damages to your fire alarm system . . . with the small cost of VAC-M arresters that will prevent these damages?

Have you figured the possible costs of interrupted alarm service in loss of life and property?

If you have, VAC-M arresters now safeguard your equipment. If you haven't, why not "VAC-M PROTECT" one circuit this summer experimentally.

It Will Pay!

The National Electric Specialty Co.
Toledo, Ohio

EDDY
Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience go into their manufacture and they embody valuable and exclusive features.

Write for the Facts

EDDY VALVE CO.
Waterford, N. Y.
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BI-LATERAL FIRE HOSE

THE BI-LATERAL FIRE HOSE CO.
Canal St. Station
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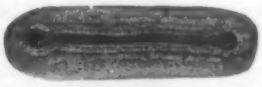

If a hose salesman can convince you by any argument that his three-year guarantee will result in just as good an adjustment, should one be necessary, as a guarantee for six years, from a reliable company, certainly if you have a goat, he's got it.

BI-LATERAL FIRE HOSE is guaranteed six (6) years.

COREY

Hydrants as manufactured by "Rensselaer" are being used to fight fire in every State of the Union. Made of the very best material and workmanship.

"The Rolls-Royce among Fire Hydrants"

RENSSELAER VALVE CO.,
TROY N,. Y.

ROTARY PUMPS
FIRE HYDRANTS
FIRE APPARATUS

Waterous Dependable

Send for our Complete Catalog
Agents in Principal Cities

WATEROUS COMPANY
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Fire Alarm Signals
Water Meters
Compounding Valves
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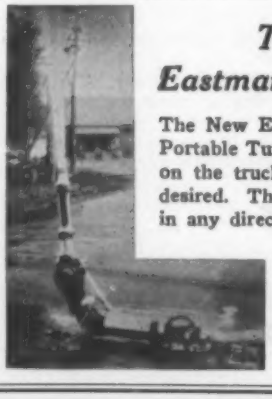
Presses for Lining Service Pipe with Cement

Union Water Meter Co., Worcester, Mass.
Incorporated 1868



The New Eastman Deluge Gun

The New Eastman Deluge Gun is a Portable Turret Pipe that can be used on the truck or ground, as may be desired. The stream can be operated in any direction by one man.

Samuel Eastman Co.
Concord, N. H.

Why not send for some of the new catalog material listed on page 475 of this issue?

FIRE DEPARTMENT ACTIVITIES

Pumper Delivered to Center Moriches, N. Y.—A Mack pumper has been delivered to Center Moriches, L. I., N. Y.

Harrisburg, Pa., Fire Alarm Nearly Completed—It is believed that the new fire alarm system being installed in Harrisburg, Pa., will be completed June 1.

Berkeley, Cal., Orders Pumper—A 1,000-gallon pumper has been ordered for Berkeley, Cal. It is expected that the pumper will be delivered in July.

New House Opened in Hempstead, N. Y.—A new fire house was dedicated in Hempstead, N. Y. Refreshments were prepared and served by the auxiliary.

Bids Invited for House Construction—Bids were invited for the construction of a combined fire and police station in San Antonio, Tex.

Denver to Vote on Pay Increase—A charter amendment to increase the pay of Denver, Col., firemen fifteen dollars a month will be voted on at the May 21 election.

Keokuk, Ia., Firemen Get Increase—Firemen in Keokuk, Ia., have been granted an increase in pay of five dollars a month, effective May 1.

N. Y. Firemen's Home May Be Enlarged—Trustees of the New York state firemen's home at Hudson, N. Y., are considering enlarging the home.

Changes Planned for Pittsburg, Cal.—The city manager is considering a reorganization of the fire department in Pittsburg, Cal. Meetings will be held each month and drills will be arranged at frequent intervals.

Hammond, Ind., Receives Flood Lights—Three flood lights of 500-watt power each, have been placed in service in Hammond, Ind. Two of the lights and a generator are to be mounted on a chemical truck.

Tulsa, Okla., Orders New Apparatus—Tulsa, Okla., has ordered four 750-gallon Ahrens-Fox pumpers and one aerial ladder. The apparatus will be used to equip three new fire stations.

Underwriters Want More Firemen in Colorado Springs—Fire underwriters, contrary to the city's desire to reduce the fire department personnel, have been urging that more firemen be added in Colorado Springs, Col.

Fire House Opened in Schenectady, N. Y.—The central fire station has been opened in Schenectady, N. Y. Chief August Derra gave the order to move from the old station to the new.

Lewistown, Pa., May Cut Apparatus Speed—A recommendation has been made that the speed of apparatus in Lewistown, Pa., be cut down to twenty miles an hour at all street intersections.

Suggested Ordinance Against Fire Hazards—The National Board of Fire Underwriters has issued a suggested ordinance providing safeguards against fire hazards during the construction of buildings. Copies may be obtained from Clinton T. Bissell, associate consulting engineer.

New Station Wanted in Easton, Md.—A recommendation has been made by Chief Walter B. Wood of Eastern Shore, Md., that a fire station be built to centralize equipment. At the present time, various units are housed at widely scattered points.

Geneseo, N. Y., Against Gay Uniforms—A plea by firemen of Geneseo, N. Y., for new uniforms has been turned down by the Board of Trustees, as it was felt that the money could be better spent for fire apparatus. The men, however, stated that uniforms were essential to keep up the company spirit.

Oklahoma City to Open New Fire Station—A public reception and concert is planned by Chief George B. Goff to mark the opening of a new fire station in Oklahoma City, Okla. Prior to this, city officials will be guests of the department at a dinner.

Albany, N. Y., to Have Training Tower—Chief Michael J. Fleming, of Albany, N. Y., has requested a $6,000 bond issue for financing the construction of a new training tower to be erected in time for the firemen's school. The tower will be five stories high with a concrete basement for training in fighting smoky fires.

Iowa Communities May Issue Tax—According to a bill that has passed both houses of the Iowa legislature, farm communities are to be given the right to levy a tax for purchase and maintenance of fire fighting equipment. Up to the present, it has been the custom to finance such purchases through personal solicitation for funds and contributions.

Akron, O., Firemen Want Pay Increase—Members of the Akron, Ohio, fire department have started a campaign to obtain a fifteen per cent increase in pay. The object is to bring the pay of men who have been in the service, from $2,079 to $2,400 a year. A temporary organization has been formed to carry on this fight.

Indianapolis Bureau Makes Many Inspections—A total of 12,868 surveys were made by members of the Indianapolis fire prevention bureau during the first quarter of 1929. Efforts are being made to suppress the use of inflammable motion picture film in public buildings other than theatres or auditoriums that are adequately equipped.

New Traffic Rules Issued in Utica, N. Y.—Chief Joseph N. Sullivan, of Utica, N. Y., has issued orders that when apparatus approaches a corner where a traffic policeman is stationed, the driver is to indicate the direction towards which the company is headed. Absence of an officer at a corner does not permit the driver to speed by. The order states, "Extreme caution must be used in the congested district."

Flier Honored for Turning in Alarm—An air mail pilot has been made an honorary member of the Ringtown, Pa., fire department for saving the village from possible destruction on March 19. The pilot discovered the fire while flying over Ringtown, and he brought his plane down near the housetops so that the noise from the motors awakened the villagers.

Township Must Pay for Death of Firemen—Stowe township, near Pittsburgh, Pa., must pay $13,442 for the deaths of three volunteer firemen and the injury of seven others, although the men were hurt outside of the township. The men were injured while on the way to a fire in Heidelberg. The court ruled that since the men had not reached Heidelberg and had not reported to the chief there, they were still in the employ of Stowe township.

Montana Firemen to Meet in Butte—The annual convention of the Montana State Firemen's Association will be held in Butte, Mont., July 15-17. As a deviation of the technical meetings, the delegates will be taken through one of the Butte mines and a trip through the smelter at Anaconda. The Butte Water Company will be hosts to the firemen at an outdoor banquet at the Basin reservoir. The convention will close with a banquet at a local hotel.

Michigan Prohibits the Use of Fireworks—Fireworks are now barred in Michigan. The bill has been recently passed and was promptly signed by the Governor. In many cases where cities passed laws prohibiting the use of fireworks, stands were erected just outside the city lines so that it was possible for residents to buy the explosives and bring them back to the city. By passage of the state law, this will be eliminated.

Few Boys Follow Fathers' Careers—According to a report issued by the State Board of Education of California, only about ten per cent of sons follow their fathers' careers. Of 461 cases, only fifty adopted the same occupation as their fathers; 217 chose occupations in the same intelligence group as their parent. Judging from the number of men in fire departments whose fathers are or were fire-fighters, it appears probable that the ten per cent figure is low.

Ohio Townships May Not Join in Purchase—According to state law, two Ohio townships can not join in the purchase of fire apparatus. The law reads: "Two or more townships may not legally join in purchase of fire apparatus and appliances for the purpose of furnishing fire protection to such townships. Two or more sub-divisions may not legally undertake to do jointly that which they may do severally in the absence of express statuatory authority."

Sioux City Firemen Granted Increase—Salaries of third-year firemen in Sioux City, Ia., will be increased five dollars a month. For the last three years the city has partially met a wage increase demand by paying their telephone bills, by an agreement with the telephone company, the city was given reduced rates. According to the ordinance firemen will receive $130 per month the first year, $140 the second year and $150 the third year.

FALSE ALARMS

Drawing by "Art" Espey

A Wise Chief Covers Exposures

PATIENCE REWARDED

To make the fire house more attractive, one fireman who had a hobby to plant things, made several flower beds about the Spanish-type building and put up flower boxes. The chief was very much pleased with the work. One evening he inspected the labels in the various beds.

"What's this, John," he called. "What does this label, 'Wait and See' mean?"

"Well, Chief, I forgot what I planted there."

Once upon a time a woman called up the fire house, and without any questioning, reported the exact location of a fire. Maybe! But that was long, long ago.

HEAVY PART

The volunteer fire department staged its annual show. Because of the large number in the cast each one of whom had many relatives, the auditorium was crowded.

The following morning, one fireman went to work under a handicap. He said to his employer:

"I am very hoarse as a result of the show last night."

"Did you have a leading part?"

"No, I was the prompter."

AN ADVANTAGE

There was always a crowd of youngsters behind the iron chain in front of the fire house, peeking through the open door. It was considered an honor to be stationed at the end nearest the desk for then one could study the various recording instruments. Two lads commenced to fight over who was there first. The desk man got up to watch.

"Hey there, you shouldn't hit that fellow when he's down."

"G'wan! What d'you think I got him down for?"

"I won't graduate from the fire college this year."

"And why not?"

"'Cause I didn't go this year."

NO TIME LOST

Poor Flaherty! He was being accorded a true hero's funeral by the department. Not every one meets Death the way Flaherty did.

The church was full. Most every one of importance was there. The undertaker was there, of course. He said:

"Come, come, where is the sixth pallbearer?"

"Pardon, sir," replied the minister, "he's proposing to Mrs. Flaherty."

IT WORKED

Tom was brought home in a very serious condition. He lost his grip while putting on his coat and fell from the ladder truck. The doctor was giving instructions to Tom's wife.

"Your husband must be absolutely quiet. Here is a sleeping draught."

"When do I give it to him?" asked the wife.

"You don't, you take it yourself."

SEX APPEAL

Jeanne was the type of girl who had everything plus. Cassidy over at Station 7 was very sweet on her and she returned the favor. But some difference came up, and the friendship broke off.

As the men were looking over the morning paper, one shouted:

"Hey, Cassidy, I see in the paper that Jeanne can't resist a man in uniform."

"Huh," grunted Cassidy, who had visions of pleasant times.

"Yeh, she got arrested again yesterday."

Drawing by "Art" Espey

An Imaginary Line That Changed All Events

Not so long ago a fire company on Long Island responded to a fire only to learn that the part of the building on fire was beyond their jurisdiction, for it was across the line in a neighboring county. The company was ordered back to its quarters. It might have been more sportsmanlike to have waited until the fire had eaten its way through the building to the portion that was in the home county. At any rate, the company that responded might have had some activity to reward their run.

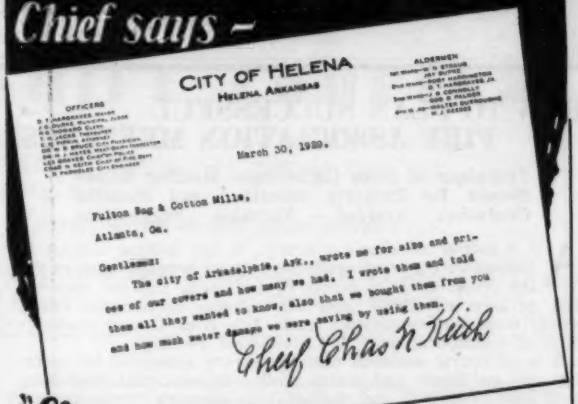
THE H-H INHALATOR FOR RESUSCITATION!

Hundreds of Fire Departments have installed H-H INHALATORS for the successful resuscitation of victims of carbon monoxide poisoning, gas asphyxia, electric shock, drowning, etc. The H-H INHALATOR is officially approved by the Association of Police and Fire Surgeons and the American Gas Association. Our representatives will be pleased to arrange a demonstration whenever you say.

Write for Free Copies of Bulletins No. 80 and 82

Mine Safety Appliances Co.
Braddock Ave & Thomas Blvd. Pittsburgh, Pa.

Another Prominent Fire Chief says –



CITY OF HELENA
HELENA, ARKANSAS

March 30, 1929.

Fulton Bag & Cotton Mills,
Atlanta, Ga.

Gentlemen:

The city of Arkadelphia, Ark., wrote me for size and price of our covers and how many we had. I wrote them and told them all they wanted to know, also that we bought them from you and how much water damage we were saving by using them.

Chief Chas N Kirk

"Shuredry" Waterproofed SALVAGE COVERS

More evidence of the importance of "Shuredry" Salvage Covers to every Fire Department, no matter where located.

Not only do Shuredry Covers cost less than rubber, they are much easier to handle and spread, and do not peel or crack when folded and stored.

Write our nearest plant for samples and prices.

Fulton Bag & Cotton Mills
Brooklyn Dallas St. Louis Minneapolis
New Orleans Atlanta, Ga. Kan. City, Kan.
Manufacturers Since 1870

The Warning Shriek of a Siren!

A Flashing Red Light!

—And Traffic Makes Way for the Fire Department

Down the street rushes the fire department. Traffic must stop—*and it does.* The streets must be cleared—*and they are.* For the Harrington-Seaberg Signal has sounded the warning with its shrill siren blast and flashing red "STOP" light.

Are the congested areas in your city equipped with Harrington-Seaberg Warning Signals? Cities of every size the country over find them incomparable for those quick-action moments that come so unexpectedly.

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HOW TO PLAN SUCCESSFUL FIRE ASSOCIATION MEETINGS

Technique of Such Gatherings—Meeting Rooms Should Be Properly Identified and Possible Confusion Avoided — Valuable Suggestions

AS a matter of simple courtesy, if for nothing else, it is incumbent on any organization to so arrange matters for the presentation of papers or addresses, that the speakers may perform effectively, and the audience receive the fullest benefit from the presentation made, free from the petty annoyances so common at many fire association meetings.

It is of course assumed that the papers scheduled for meetings are on timely and worth while subjects; that they have been well prepared; and further that adequate announcement of their subjects and the place and time of presentation have been duly made in the convention program. There then remain three outstanding factors which must be blended to give a degree of harmony approaching ideals sought:

1. The selection, identification and arrangement of the meeting room.
2. The conduct of the meetings by the officers.
3. The speaker and the stage setting.

Selection of Meeting Room

Of prime importance is the advance selection of the room. Its size will depend upon the estimated attendance, an item which will be judged by the character of the sessions scheduled. The meeting room should be reasonably convenient to the convention headquarters or registration desk and yet sufficiently isolated that noises from within and without the hotel may not become objectionable. While meeting rooms on upper stories have the advantage of relative quiet from exterior noises, the congestion of elevators before and after sessions, when the attendance is large, should be considered as a contributory disadvantage. Where the hotel is located in the business section, and building ventilation is good, inside meeting rooms are preferable. The hotel officials should be consulted in the selection of rooms.

Some of the exterior noises which must be considered in connection with outside rooms are those caused by trucking in streets, sand-blasting of nearby buildings, automobile horns, street cars, elevated trains, boat whistles, news boys, traffic officers' whistles, and so forth. Inside noises are caused by elevator machinery, and careless handling of dishes and silverware.

The meeting rooms should be easily located. It is believed that beginning with the lobby in which registration is conducted, there should be posted adequate signs with indicating arrows directing the delegates to the various meeting rooms. In addition, an easel should be placed outside each meeting room with a sign giving notice of the section and the time of opening of the session.

The speaker's platform should be at the center of the wall on the long side of the room, most distant from the entrance. It should be elevated at least one foot and be approximately seven feet deep, twelve feet across, and properly carpeted. There should be an aisle of not less than eight feet between the front of the platform and the first row of seats. A three-block arrangement of seats is the most satisfactory.

Special Attention to Entrance and Exits

In arranging the set-up of the meeting room, special attention should be given to the entrance and exits. These should preferably be in the rear or on a side near the rear of the room. A most annoying condition at our meetings has been the noise of conversation in the lobby which is carried through the entrance and exits. For several reasons, it is undesirable to close the entrance and exit doors and under such circumstances, a screen should be placed in front of each entrance. This will not only shut off external noises but eliminate the distraction to those reading papers, caused by the opening and closing of doors. As a further precaution, it is believed that a sign reading, "Meeting in Session, Please Observe Quiet," posted at the meeting room entrance would have a desirable effect.

In the front of the room between the platform and the first row of seats, there should be a table for the chairman, clerk and stenographer. At the rear of the room there should be a table placed near the entrance, for the monitor.

A most important item for such a setting, is the location of the screen for stereoptican or moving picture illustrations. It is common in meetings to locate the stereoptican machine in the center aisle, where it is not only in the way of those arriving and departing, but also an obstruction to the vision of those sitting at the rear of the operator. Those sitting nearby have the distraction of the machine due to the noise and from the glare of side lighting when pictures are changed. The screen should be either directly behind the speaker's platform or slightly to the right. The screen should be of such size that the bottom of the picture can be at least one foot over the head of the speaker. The one speaking should be provided with a long pointer in case he wants to direct attention to a particular part of the illustration. This will eliminate the shadows of the speaker on the screen.

The stereoptican machine should be mounted on a platform so that the rays of light will not be obstructed by persons walking down the aisle. The signal for change of slides should be an electric light controlled by a button switch in the hand of the speaker. This will eliminate the cumbersome and noise-making shift signals.

Personality of the Chairman

The chairman should have a full knowledge of his duties and the courage to discharge them. He should have a personality which automatically establishes a dignified atmosphere throughout the session. His enunciation should be clear. He should insist upon punctuality in the opening and closing of the meetings as well as to control the time consumed by the speaker in presenting the paper, and the time allowed for discussion. It takes an efficient and courageous chairman to do this, but his efforts will generally be appreciated by everyone. A meeting scheduled for 9 o'clock should be opened promptly on that hour regardless of the attendance. The chairman should communicate with the speakers in advance of the meeting to be sure that they will be in attendance in accordance with the schedule and that their wants are cared for.

Changes in the order of the program should be discouraged, but if permitted, should be announced at the opening of the session. At the opening of the meeting, the chairman should request those in attendance who desire to leave the room, to refrain from so doing while a paper is being read.

Speakers should be requested to seat themselves in the front row reasonably convenient to the chairman's desk, where they may be interviewed, if necessary, with as little distraction as possible.

Monitor Aid at Meetings

A most important aid at meetings is the monitor. He can be a boy obtained through the local Boy Scouts or the high school. He should have a special desk at the rear of the room, preferably near the entrance. Prior to the opening of the meeting he should see that the layout of the room is as planned, that aids for the speaker have been provided, and so forth. He should have charge of any changes to be made on the bulletin board. The monitor receives all special messages during the meeting and delivers them to the chairman.

All arrangements for turning in copies of reports and for stereoptican service should be made before the opening of the meeting. The passing out of samples, reprints and so forth, by the speaker prior to or during his presentation should be discouraged. Such material should be given to the monitor for distribution before or after the meeting.

If the speaker must first attend another meeting and arrive late, he should make this fact known to the proper section chairman. The so-called reserve which some speakers display in not mounting the speaker's platform makes it difficult for those in distant sections of the room to see and hear the one in front of the platform.

While the various facts mentioned may seem trivial, they contribute in making a meeting a success.

The material in this article was taken from a paper by Arthur E. Gorman, former Chief Sanitary Engineer, Chicago, presented at the convention of the American Public Health Association.

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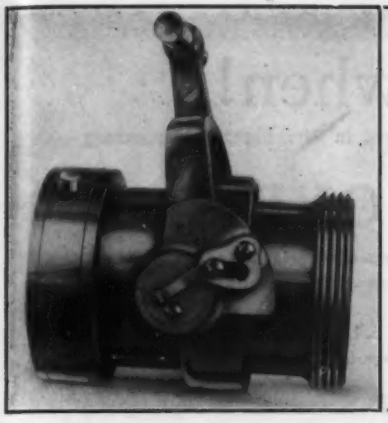

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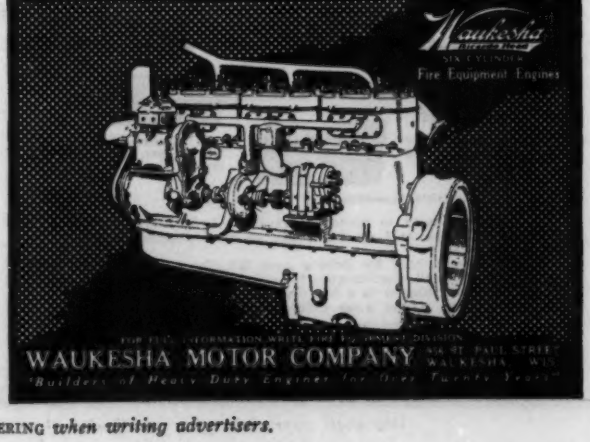

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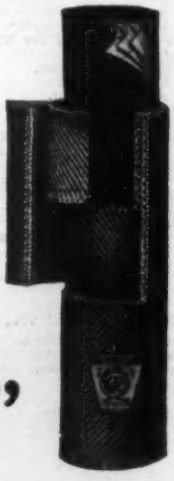

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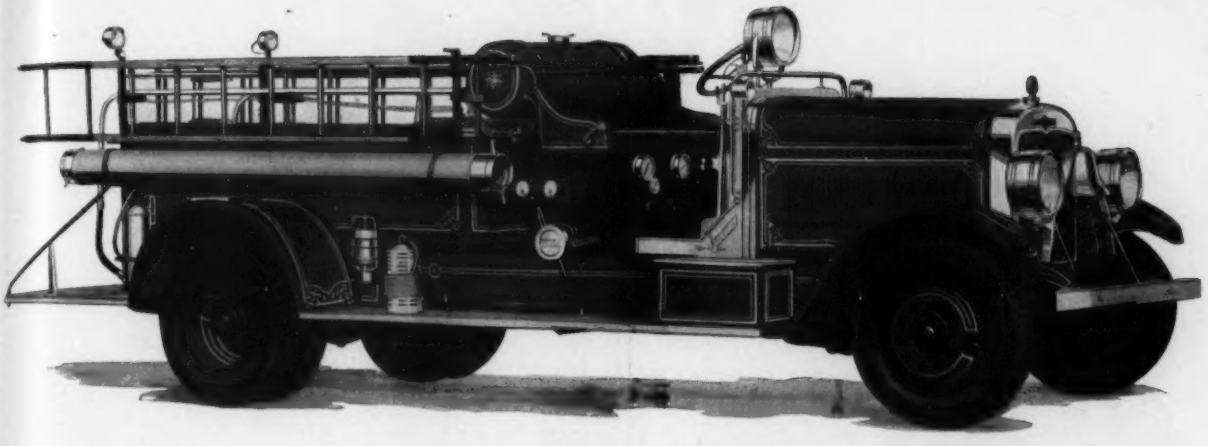

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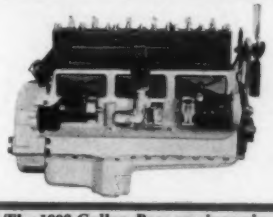

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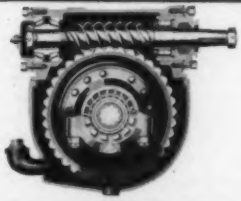

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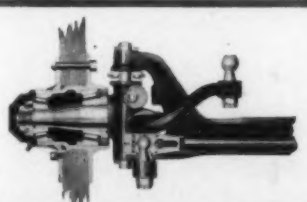

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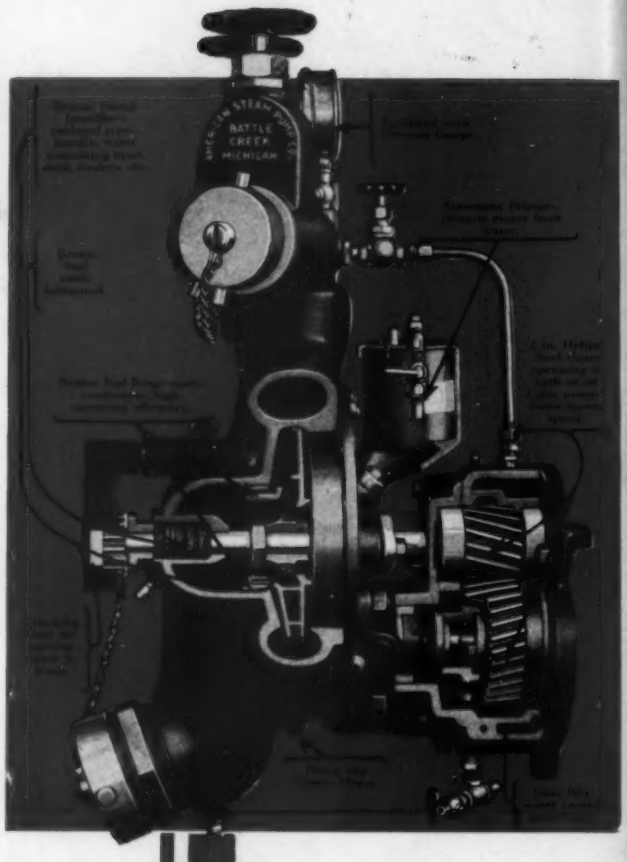

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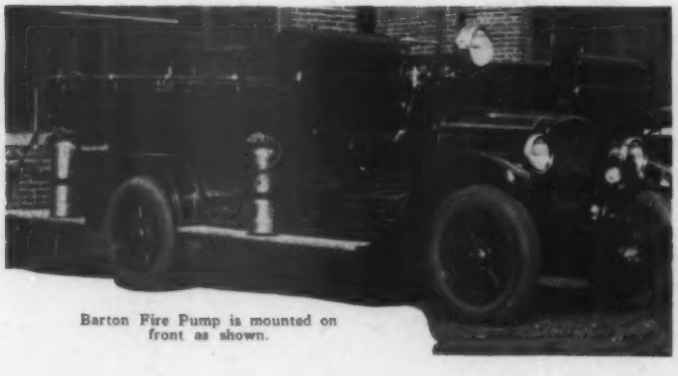
BARTON
FIRE PUMPS



Barton Fire Pump is mounted on front as shown.

Study for a moment the Barton Pump as revealed by the sectional view above. Note that here is a centrifugal pump, handling water from either hydrant pressure or suction; therefore, adaptable for both city and rural protection. Note the high-grade features such as water cooled gear box, automatic primer and bronze seal rings.

Barton Pumps are offered in sizes to handle up to 375 gallons per minute at pressures as high as 200 pounds. They can be used with practically all types of fire apparatus, mounting on front as shown below with power taken from motor crankshaft.

This equipment is handled by nearly all the leading apparatus people—any one of whom will furnish you with full details—or write us direct for Bulletin 60.